NIGERIA

A TEN-YEAR PLAN OF DEVELOPMENT AND WELFARE FOR NIGERIA 1946

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MAPS

(*i*) ROAD DEVELOPMENT

(*ii*) TELE-COMMUNICATIONS DEVELOPMENT

Copy of a Resolution passed by the Legislative Council on 7th February, 1946 :—

"*Be it resolved :*

That this Council adopts the Report of the Select Committee appointed to consider the Ten-Year Plan of Development and Welfare for Nigeria set out in Sessional Paper No. 24 of 1945 and approves the Plan as amended by the Select Committee and recommends its acceptance as the general development policy of the Government of Nigeria for the next ten years, subject to periodic review of details in the light of experience and the inclusion of such additional schemes as may prove to be necessary as the result of unforseen circumstances."

A TEN-YEAR PLAN OF DEVELOPMENT AND WELFARE FOR NIGERIA

INTRODUCTION

In Sessional Paper No. 6 of 1945 " Preliminary Statement on Development Planning in Nigeria " an indication was given of the lines on which planning was proceeding, with a view to the preparation of a general and comprehensive plan of development and welfare for Nigeria covering a ten-year period. That plan has now reached the stage where it may be published and laid before Legislative Council for its consideration.

2. A plan of this description can do no more than represent the general course of proposed action especially when it deals with a country of the size of Nigeria, with a highly diversified population of over 22,000,000, living under conditions which vary from desert to high tropical rain forest and swamp. Such a plan, and the constituent schemes within it, must of necessity be drafted on the lines of a military plan of campaign covering intended policy, but which is nevertheless sufficiently flexible to meet changing conditions, unexpected eventualities, and factors at first unknown. It must allow of modification of method and details of policy so that the results of experience may be assimilated in the work as time goes on; care must be taken to ensure that there is established a proper balance between the various schemes within the plan so that no one aspect of development excessively outstrips the remainder in speed of accomplishment; room must be left for the insertion of after-thoughts and new ideas which experience alone can indicate. The concept, therefore, is one of a series of objectives with an approximation of the cost. The final detail and the ultimate cost can only be ascertained as the plan goes into effect and the schemes are progressively reviewed in the light of results.

3. Every effort has been made in preparing this plan for Nigeria to cover these points and to arrange the schemes so that they may be accelerated or attenuated in their accomplishment according to the factors which prevail during the period.

4. Two factors will have more influence than any others, cash and men. The money provision involved is a large one, estimated at over £55,000,000 during the ten years. It has been the subject of prolonged discussions both in Nigeria and in London with the Colonial Office and His Majesty's Treasury and, as the result, the very handsome sum of £23,000,000 has been allocated to Nigeria from the Colonial Development and Welfare Vote towards the cost of this plan. In addition it has been agreed with the Colonial Office and His Majesty's Treasury that a substantial portion of the expenditure involved is suitable for financing by loans raised by the Government of Nigeria. The Legislative Council, at the current session, will be asked to pass a Development Loan Bill authorizing the raising of a loan of £8,000,000 to cover that part of the first five years' requirements of the plan suitable for financing in this way. It will not be necessary to raise all this money immediately, in fact, the major flotation may be postponed for a year or two but some of the loan will be offered for subscription in Nigeria and will provide a means by which Nigerians may participate in local development and still realize a fair return on their investment. The remaining finances required for the plan must be found from Nigerian revenues.

5. The second factor, the supply of men to implement the plan, will present some difficulty in the earlier stages. The flow of candidates for the numerous and varied offices required must be slow and spasmodic until demobilization has reached a more advanced stage. Nigeria has to take her place in the queue for such men and accept her fair share of those available in due relation to the needs of the United Kingdom and other Colonial Dependencies. In some instances, the trained personnel will not be fully available for several years because of the interruption of training during the war. Where this happens it will be necessary to use the available specialist and trained staff to the maximum of advantage and supplement it temporarily with less trained personnel who can intelligently carry out instructions.

6. All the constituent schemes of this plan aim at increased educational and training facilities for African staff and this, coupled with increased provision for higher education, both in West Africa and by means of scholarships under the special Colonial Development and Welfare allocations for such purposes, will result in a greatly accelerated Africanization of the local services and will permit of Nigerians taking an ever-increasing part in the work of development of their country and its people. Progress in this sphere must be relatively slow in the first few years while training facilities are being built up and the candidates undergo their courses, but the speed will accelerate rapidly as the plan develops, provided the local men and women come forward and offer themselves for training and are prepared to face the hard work required in gaining a proper qualification, and not one which leaves them half-trained.

7. It has been explained that, at its inception, the formulation of this plan cannot be rigid or final in detail; yet the money provision necessary for its execution must be assessed within reasonable limits so that its feasibility may be determined. In order to arrive at the over-all expenditure for the ten-year period it has been assumed that the original constituent schemes will, broadly speaking, be carried through, and calculations have been made accordingly with a certain amount of latitude for after-thoughts and subjects not immediately apparent or not yet worked out in detail. While not infallible, such a system does give a fair picture and it is reasonable to assume that subsequent modifications, by addition to or subtraction from the original ideas, will roughly quadrate in cost either within a single scheme or between one scheme and another. The unknown factors of major importance are the future costs of materials and labour, but as estimates have been based upon current costs, it is not unreasonable to assume that increased wages will be largely offset by a drop in the present inflated costs of materials and freights.

8. The numerous tables at the end of this paper and summaries of estimated expenditure show the extent of the work which has been put into the preparation of this plan by the Heads of Departments and others concerned. They represent eighteen months of hard thought, planning and calculation.

9. The estimates are not final as they will be subject to annual revision as action develops. In fact it is intended that the whole plan shall consist of a series of ten annual estimates, based upon the present proposals, but adjusted and amended in the light of experience and in accordance with such modifications of policy as may prove to be desirable as time goes on. This procedure will also permit of amendments to the tempo, while retaining the final objectives, should unforeseen financial difficulties intervene. This is where the generous allocation from the Colonial Development and

Welfare Vote will prove most valuable as, apart from anything else, it will be an insurance that development will go on, even at a reduced tempo, if local finances are temporarily depressed.

10. The annual presentation of a Development Budget will take the following form: first a Head showing the expenditure from Nigerian revenue, secondly a Head showing the expenditure which will be reimbursed in connection with schemes approved and assisted under the Colonial Development and Welfare Act, and thirdly an Appendix showing the current year's anticipated expenditure from monies to be allocated under the Development Loan Ordinance or from advances made from surplus balances pending the raising of loans authorized under this Ordinance. In some instances there will be complementary expenditure under two or three of these Heads because, as will be seen later, several of the schemes are to be financed in part from local funds, development loan money, and free grants made under the Colonial Development and Welfare Act

11. The plan itself has been made as comprehensive as possible, but many of the constituent schemes consist largely of extensions to existing departmental activities in order to overcome the deficiencies of the past caused by long periods of financial stress and stringency. Apart from extensions of services, such schemes will give the opportunity of rapid absorption of modern methods and technique, particularly those which have arisen as the result of experience during the war.

12. No properly balanced plan of development and welfare for a country in the present condition of Nigeria could possibly be successful until certain fundamentals have been put right. Consequently it would have been useless to consider any policy of wide economic development until plans had first been made to ensure that the people were, at least simultaneously, put in a position where they could participate and take full advantage of such activities.

13. The necessity for providing adequate and purer water supplies, free from intestinal and other parasites, is an obvious pre-requisite to any other improvements in a country where many people have to travel miles to obtain a small quantity of normally highly contaminated water. Neither would it be rational to attempt to apply a plan which would call for greater effort on the part of the people while many of them are in a debilitated condition from worm infections and endemic and epidemic diseases. A healthy body, reasonably nourished, is essential before further productive effort can be expected. Consequently this plan has first of all had to deal with the services needed to put right those things which are radically wrong or deficient. Hence the heavy allocation and high priority given to such services.

14. Health and water alone are insufficient. It has thus been necessary to deal with Educational Development and extensions to the important services of the Agricultural, Veterinary, and Forest Departments which will mean so much in the further exploitation of the principal asset of the country, namely its land.

15. The Educational service must, of necessity, be expanded as one of the important contributing factors to the successful accomplishment of the plan as drafted. In every sphere of development, whether planned work or just the normal progress of the people, additional trained staff will be needed: as quickly as possible the majority of that staff must be Nigerian. At the moment, whether we are dealing with scientists, medical men, engineers, technicians or artisans, there is a serious shortage of local men,

trained to a proper degree of efficiency. The Education and Technical Education schemes provide for a rapid extension in the training of local men, and it is intended that the Development and Welfare Plan shall be used as the principal means of implementing the desire for a wider and more rapid Africanization of the services of this country.

16. The next important matter to be dealt with in formulating this plan, with a view to the ultimate improvement of economic conditions, is the extension of what may, for the lack of a better word, be known as the physical developments of the country. A healthier, better educated and more highly productive population must, as a pre-requisite to its further economic development and improvement, have increased facilities for communications, improved living conditions, and provision of fuel and power.

17. Schemes have, therefore, been prepared in connection with road development, the improvement of water communications and Marine activities generally, and a wide expansion of tele-communications which will permit of rapid telephone and telegraph facilities throughout the whole country. The latter will enable not only more rapid commercial communications, but will provide the facilities by which Government Administration and Departments will be in easy touch by telephone between one part of the country and another. Thus tele-communications development will be of first class importance in that the time factor in communications, which has limited progress so much in the past, will now be largely eliminated.

18. A programme of considerable expansion of electrical and hydro-electrical undertakings has also been prepared in order that there shall be lighting and power available wherever minor or major industries may develop; the Forestry scheme will provide for additional fuel plantations as a primary source of power where coal is not available at a reasonable price.

19. Another scheme of physical development which will be of importance is that connected with Town and Country Planning. This is not intended to cover merely the expansion and re-designing of big towns but will extend to all parts of the country, including small villages, where the need for reconstruction and the provision of more modern facilities and amenities is a matter of extreme urgency. Better standards of living and greater rural attractions must be provided if it is intended to prevent any further flow of population from the country into the towns, with the attendant consequences of squalor, unemployment and crime.

20. In addition to all this it has been necessary to prepare a large building programme to overtake the requirements of the schemes contributing to this plan. They call for considerable additions to residential and office accommodation as well as provision of hospitals, rural health centres, schools, training institutions, laboratories and other facilities needed by the scientific and technical departments. To accomplish all this a large expansion of existing building services must be provided.

21. The third, and in the long run the most important feature of the plan, is the provision, extension or development of those services which will lead up to economic betterment, without which, any other form of development and welfare may ultimately become nothing more than a liability with consequent national bankruptcy.

22. Beyond the known deposits of coal, lignite, tin and small amounts of gold and other minerals there is no immediate prospect of serious developments from mineral resources. Nevertheless, the

field has not been by any means exhausted, and between the special scheme provided under the Colonial Development and Welfare Vote for the development of mineral resources, through the Geological Survey Department, on the one hand and the centralized scheme for the over-all Colonial geological survey on the other, it is hoped that within the next few years we shall know with some reasonable degree of accuracy whether Nigeria has any appreciable mineral wealth which can be developed with profit.

23. Apart from any potential mineral wealth and a limited amount of forest resources the main natural asset of Nigeria lies in its land. Therefore, for the time being, future economic developments must rely upon the raw materials which are the outcome of agriculture, livestock rearing, and fishing. Because of this, very generous help has been promised for the expansion of Agricultural, Veterinary and Forestry Services from the Colonial Development and Welfare Vote. Other developments will be carried out from Nigerian revenues and from schemes and enterprises set up from capital monies provided under the proposed Development Loan Ordinance.

24. It will be necessary, however. to have a co-ordinating entity in the form of a Government Department to assist and advise and, where necessary, to participate in such economic improvements and developments as may be decided upon. A Department of Commerce and Industries is, therefore, being set up with two major sections; one for the development and improvement of marketing of products for export and the other connected with internal domestic trade and the development of local industries. Already two subordinate branches have been established in connection with this Department for the development of fisheries and the improvement of the peasant textile industry. While plans have not yet been formulated in any detail it is expected that additional developments of this sort will take place including the utilization of timber and the manufacture of pottery. bricks and tiles and other building materials.

25. It is obvious that many economic developments will require specialist advice and while the Department of Commerce and Industries will have on its staff a number of specialist officers it is intended, when necessary, to employ the services of consultants in regard to matters which are beyond the scope of the regular staff. The department will also take over the expansion and development of such experimental work initiated by other departments as may appear to have commercial possibilities. It will carry on such industries through the pilot plan stage and, if further development proves desirable, it may be necessary for Government to participate more deeply if local enterprise does not come forward to accept the responsibility for expansion. With this end in view the proposal for establishment of a " Nigeria Local Development Board " referred to later in this memorandum will help to provide the capital expenditure necessary in the development of such enterprises.

26. One of the more important and first functions of the Department of Commerce and Industries will be connected with the establishment of factories for the improved method of expressing Palm Oil. This will ensure that a proper yield is extracted from the fruit and so improve the return to the producer. Wherever possible, such factories and other enterprises when established by the Department of Commerce and Industries will be handed over at the earliest possible stage for operation, under appropriate technical and accounting supervision, to Native Authorities or other approved bodies such as Co-operative Societies. It is not possible to

enumerate at this stage all the lines of experiment and commercial developments, but it is confidently expected that the proposals for the new department and the other provisions made within this plan will become the foundation from which considerable economic improvement will result.

27. In addition to the three main lines of development already described, there will be a number of subsidiary developments. In the first place it will be necessary to provide a staff of officers who will be able to co-ordinate the peripheral work of the various departmental schemes on a village or small district basis In Appendix XX a scheme is described for the provision of Development Officers who will fulfil this function.

28. Statistical work will also be necessary in order to arrive ultimately at a proper mathematical foundation on which to build future developments. It is therefore intended that a Statistical Branch shall be set up, which, amongst other things, will arrange for a census of the whole country in the year 1951. The details of the requirements for this branch are still under discussion and can only be dealt with at this stage in general terms.

29. Social Welfare activities will also become an important factor in the co-ordination of the results of the various development schemes. This is a subject which must be allowed to remain at all times in a fluid condition in a country such as Nigeria. In general, however, social welfare will be the responsibility of the Provincial Administration, linked to the general work of the Administrative Service, but with the assistance of such advisers and co-ordinating officers as may prove necessary. It should be appreciated that as many, if not all, of the schemes within the plan have a social welfare bearing it is impossible to regard welfare as a separate self-contained subject. The organization which is provided under this heading will be largely engaged in guiding the people to make the best use of the facilities arising from the several development schemes, although in certain places, such as Lagos, where the impact of external influences are more apparent, individual welfare schemes will be necessary. (*Vide* Appendix XVIII).

30. Research is a subject which must always be closely linked with development and many of the schemes set out have investigational or research aspects. At this stage, special research projects and schemes have not been dealt with as an integral part of the plan. The reason is that under the Colonial Development and Welfare Vote a sum of £8,500,000 has been provisionally earmarked for the purpose of research and there is every reason to believe that some portion of this money will be expended in Nigeria although it would appear that some contribution from Nigerian Funds will also be needed. Research schemes are actually in course of preparation for the expansion of existing research on the oil palm and palm products and in connection with the cultivation and breeding of rice. Research on cocoa is already being organized on a West African basis and, for the moment, can be considered as outside of the Development Plan. It is understood that a West African Research Service for deep-sea and off-shore fisheries will be provided from the Colonial Development and Welfare Vote, while centrally administered schemes will be provided for geodetic and topographical surveys, including aerial surveys, meteorological surveys also for nutrition investigations.

31. Therefore, apart from the necessary research and investigations connected with the Nigerian development schemes as they now stand, the full field of research in Nigeria and the finances which may be involved must await the outcome of further consideration

and discussion with the Colonial Office. It should be mentioned, however, that in connection with geodetic and topographical surveys it is intended to use the aerial survey photographs which are made in connection with the centrally organized scheme for the production of maps of Nigeria by the Nigerian Survey Department, subject possibly to some minor assistance should there be any temporary shortages of staff in that department in the initial stages.

DEVELOPMENT ORGANIZATION

32. Nigeria is so large that any attempt to deal with all development matters from the centre would create such delays and confusion in regard to detailed accomplishment of the work that decentralization of the working of this plan is essential. The policy which has been adopted therefore, is to establish a central organization for the general co-ordination of the work, the over-all control of finances, and for the preparation of major policy.

33. To that end, the Development Branch, under a Development Secretary, has been established in the Secretariat, and associated with it is a *Central Development Board* consisting of the Development Secretary as Chairman, the three Chief Commissioners, the Financial Secretary, the Commissioner of the Colony, and the Director of Public Works. This Central Board deals with the general principles of development planning and the policy underlying it, and it will be the final deciding factor, subject to the approval of the Governor, in regard to over-all priorities and the proportionate allocation of the various development activities between one part of the country and another, year by year.

34. Each of the three Chief Commissioners and the Commissioner of the Colony will have a similar, but larger advisory committee. They will be known as the "*Area Development Committees*" and will consist of all Residents and the regional representatives of departments, in most cases Deputy Directors, together with such other members as the Chief Commissioners may consider desirable. The functions of these committees will be to assess the relative merits and priorities of proposals emanating from the individual Provinces, to advise upon allocations of work as between Provinces, and to act as a screening authority for schemes and other proposals which have ultimately to be put forward to the Central Development Board. The Lagos and Colony Committee, which has not yet been appointed, will have a somewhat different type of membership as the problems in this particular area will be different from those in the Protectorate.

35. Each of the twenty-four Provinces has a Provincial Development Committee with the Resident as Chairman; these have been in existence for several years. All the departments are represented on these committees and they also have a wide unofficial membership, both African and European. In most cases the unofficial membership amounts to far more than half, so ensuring proper representation of all points of view in the application of development and welfare schemes on a local basis.

36. The Provincial Development Committee's function is to prepare local schemes which are put forward for consideration by the Area Development Committees, and if necessary by the Central Development Board, and to arrange for the co-ordination of activities connected with the various major schemes within the Province, and on a district, or village basis. These Committees will also deal with the question of settlement schemes, and advise, in the first place, on planning schemes to be provided under the Nigeria Town and Country Planning Ordinance.

37. Apart from the central development staff attached to the Development Branch of the Secretariat and the central welfare staff associated with the Principal Assistant Secretary (Welfare), who will work in liaison with the Development Branch, certain officers will be allocated to development planning and financial control in each of the Chief Commissioners' Secretariats. In the provinces, the organization will probably be carried out by District Officers, but the field work, and the co-ordination on a small regional or village basis will be effected by the Administration through the staff of Development Officers, which is referred to at another place in this memorandum. One hundred of these men will be appointed to work in association with the Administration, but a further number will be provided to work primarily on departmental specialized projects. In some cases Development Officers will be the foci of special activities controlled by a committee jointly representative of various departments and the Administration, e.g., in soil conservation work.

38. The co-ordination of the economic developments and similar activities will be the responsibility of the Department of Commerce and Industries, which is now being set up, and which will work in collaboration, not only with the Administration, Native Authorities, and co-operative societies, but with the departments whose work has an economic bearing and from whom the new department will take over the development of the results of experimental work on a commercial scale.

39. Finally, it is proposed, subject to the enactment of suitable legislation, to set up a Nigeria Local Development Board. This Board will be provided with funds either by vote of the Legislature or from allocation from loan funds which, subject to certain limitations, will be used to make grants and loans to native authorities, co-operative societies, planning authorities, and other approved authorities or bodies, in connection with local schemes of development, land settlement schemes, and the establishment of communal activities connected with indigenous industries, and the use of the products of Nigeria. The Board will, of necessity, have to act in close co-operation with the Central Development Board and the Department of Commerce and Industries, as the latter will be the executive or supervisory entity concerned with the development of industrial activities. The full scope of this Board cannot yet be decided as the subject is still under discussion with the Secretary of State, and legislation has yet to be enacted to provide for its establishment.

SCHEMES WITHIN THE PLAN

40. The foregoing portion of this memorandum gives a broad outline of the present concept of this ten-year plan. In the previous publication "Preliminary Statement on Development Planning in Nigeria" an explanation was given of how the plan would be prepared, showing that when completed it would consist of a number of major schemes, many of them made up of special departmental expansions; these, although relatively self-contained, will nevertheless have to be put into effect on a provincial, district, or regional basis by collaboration between all Departments affected and the Provincial Development Committees. The latter will work under the general direction of the Area Development Committees, associated with each Chief Commissioner, while the general application of major policy will be directed by the Central Development Board. In other words, the main schemes will represent certain over-all objectives connected with special subjects, but the application of these schemes locally, and the dovetailing of one into another to get the maximum efficiency in local efforts, will largely

depend upon the degree of co-ordination which is effected through the Provincial Development Committees.

41. The schemes as they stand are not intended to be complete in all final details. These will be worked out as time goes on, and in all probability some of the original ideas will require modification, particularly in relation to local conditions. The main schemes which are now described will not represent the whole of the plan. Many subsidiary schemes will have to be prepared according to requirements resulting from experience and from demands and requests which will undoubtedly arise later. For that reason provision has been made for some unallocated money from loan funds, while a certain portion of the £23 millions allotted to Nigeria from the Colonial Development and Welfare Vote over the ten-year period has not been finally earmarked.

42. In addition to this, the proposal for the establishment of a Nigeria Local Development Board with funds at its disposal for the making of grants and loans, will provide a very useful and most necessary safeguard to ensure that minor schemes, particularly those arising from the needs of Native Administrations, can be considered and financed.

43. The following major schemes have been prepared by, or in consultation with, the Heads of Departments and others concerned, and in some instances in collaboration with the specialist advisers to the Secretary of State. In putting them into effect it may be necessary to employ consultants or to obtain further expert advice on special details. Steps have already been taken to seek such special advice in connection with several of the schemes in order to ensure economy in capital expenditure and the benefit of all modern discoveries and ideas, particularly those which have arisen from the experiences gained during the war.

I.—Provision of Rural Water Supplies

44. The basis of this scheme, which is described in Appendix I, is the provision of suitable and uncontaminated water supplies for the people in the rural districts. It is estimated that on the average a water point of one type or another is required to every 500 head of the rural population, and on this basis a total of 36,000 water points will be required, representing 18,000 existing ones which in many cases will have to be improved, and 18,000 new ones. The cost of providing these water points will vary considerably according to type, ranging from small dams to wells of various descriptions, including deep wells with special pumps. The full cost is estimated at £5,090,000, but it will take more than ten years to put the whole scheme into effect. A special Water Section of the Department of Public Works will be established which will work in collaboration with an expanded Geological Survey Department in effecting this work. The total number of supplies which will be dealt with either by reconditioning or new installations up to the end of the ten-year period (1955-56) is estimated at 32,400, leaving 3,600 supplies to be dealt with during the following two years.

45. It is intended that these rural supplies shall be provided without charge to the people concerned and a small beginning was made with this work during 1944-45 and 1945-46 from assistance granted under the Colonial Development and Welfare Vote, and that free grant will cover the work up to the end of 1950-51. The assistance for the first five years of the present plan amounts to £1,752,000, and while it may be necessary to give some reconsideration to the method of operating this scheme after 1950-51, there is every hope that additional assistance will be

provided from the Colonial Development and Welfare Vote from those monies allocated to Nigeria but which have not yet been finally earmarked. The rate of expenditure and estimate progress of work in connection with this scheme are shown in Table I. The maintenance of these rural water supplies will be the responsibility of the Native Authorities concerned, but the Public Works Water Section will provide the technical advice and supervision.

II.—Urban Water Supplies

46. The provision of rural water supplies is of great importance to ensure that the people in the "bush" have reasonably pure water in fair supply without having to travel long distances. But there are at least 2,000,000 of the population of Nigeria who live in towns of various sizes. In these cases, water supplies of a higher quality, and involving heavy installation costs and distribution systems, are required. In such cases either complete or partial treatment of the water is almost invariably a necessity for reasons of health. For the purposes of this scheme urban water supplies have been defined as those serving a population in excess of 5,000 living within a radius of two and a half miles, and which require a pipe supply either wholly or partly treated. While final surveys have not yet been made, it is estimated that about 180 towns or thickly populated areas will be involved, of which thirty-two are already provided with water supplies, but most of these will require improvement or extension. On the basis of past experience the cost of installation of such supplies will vary between £2 and £3 per head of the population concerned according to the source of the water and the concentration of the population.

47. The over-all plan for this work will, therefore, involve an expenditure of about £5,000,000, and will take more than the ten years to accomplish. A more complete description of the proposals is given in Appendix II, and the estimated expenditure is shown in Table II. It will be seen that expenditure during the ten-year period of this plan will amount to slightly over £4,000,000.

48. A beginning was made with this work during 1944-45 and 1945-46 from a free grant made from the Colonial Development and Welfare Vote, and this assistance has been further extended in order to provide the engineering and construction staff, plant, instruments and vehicles, and to provide a free grant of up to thirty per cent of the installation cost in each individual case for the first five years, i.e. 1946 to 1951. The procedure which will be followed is that the Water Section of the Department of Public Works will employ the necessary engineering and inspectorate staff, and will purchase construction plant, instruments and vehicles from the Colonial Development and Welfare grant. Each individual proposal for the installation of an urban water supply will then be examined and surveyed, and a scheme prepared showing the estimated over-all cost and the methods to be used in installing the supply. Wherever necessary, expert advice will be sought from consultants and specialists, but in many instances the work will be done by the engineering staff of the Department of Public Works.

49. As in the case of rural water supplies, the methods to be used will vary according to the geographical and geological conditions in the environment of the urban area affected. In some cases dams will be used; in other cases special catchment areas made; and in others deep wells will have to be drilled with appropriate pumping equipment to raise the water to the surface. The system and the degree of treatment will also vary.

50. The priority list of work to be accomplished will be decided by the Central Development Board based on representations made by

Provincial and Area Development Committees in relation to the capacity of the Public Works Department each year. Economy of operations will have to take precedence in some cases over urgency of demand. Authorities will be required to set up suitable Renewals Funds in all cases.

51. The responsibility of these urban water supplies will fall, in almost all instances, on the Native Authority, although there may be special cases where the responsibility will be placed elsewhere. The financial arrangements will involve the acceptance of the liability of the full net cost of installation by such authorities, after allowing for the free service of engineers and plant provided under the Colonial Development and Welfare Vote, and the thirty per cent free grant towards the actual cost of the installation. Where necessary the whole or part of this net capital cost will be advanced as a loan to the authority who will be required to enter into an arrangement by which the loan plus interest will be repaid over a period of twenty years from the date of completion of the scheme. It is intended that the repayment of capital and interest charges shall take the form of twenty equated annuities which are estimated to cost £7 per annum per £100 of the net capital cost. In some instances it may be necessary to give a short period of grace in connection with such payments, but this will not release the authority concerned from its full obligation since interest charges during the period of grace will be added to the capital cost, and the subsequent twenty equated annuities increased accordingly. The loans will be made by Government from an allotment in the schedule of the Development Loan Ordinance.

52. Colonial Development and Welfare assistance has been given under Scheme D. 437 for staff, plant, instruments, and vehicles plus the thirty per cent free grants up to and including the financial year 1950-51. In all cases, however, the grant is contingent upon the approval of each individual urban water supply scheme. While no final commitment has been given as to the amount of assistance which may be expected after 1951, it is confidently expected that further assistance will be forthcoming within the limits of the remaining Nigeria allocation from the Colonial Development and Welfare Vote. The whole scheme is subject to review from time to time and special review of the work undertaken during the first five years. Each year's activities are subject also to approval by the Secretary of State through the annual estimates submitted in connection with the scheme.

III.—Road Development

53. The importance of providing a proper road system throughout Nigeria in order to ensure reasonable contact with its large population, and to provide means of evacuating produce, thereby improving internal trade, needs no emphasis. In Appendix III a statement is given of general road policy, together with a schedule showing the mileage of roads required in each Province to ensure a fair system of communications. Broadly, the road system falls into three categories:—

Trunk Roads ' A ', which will provide a grid of main roads, two running north and south, and four running east and west, and some of which will link on to the international highways of Africa;

Trunk Roads ' B ', which are of equal importance, but of more local value; and

Feeder Roads, which complete the network.

A considerable number of these roads have already been made, but many need improvement. It is estimated that Trunk Roads ' A ', when completed, will have a total mileage of 4,175, which will

include 455 miles of new roads to be provided under the present scheme, as well as considerable improvements, straightening, and asphalting existing roads.

54. The estimated total requirement of Trunk Roads ' B ' is 4,100 miles, including 718 miles of new roads, and improvements to at least 820 miles of existing roads.

55. The present feeder road system is approximately 24,000 miles, but of this 17,000 will require considerable improvement, and it is expected that 16,000 miles of new construction will be required. The estimated total mileage of this class of road is 40,000.

56. In a roads scheme of this description the capital cost of making the roads is only part of the expenditure. Maintenance is of great importance, and becomes a liability from the moment a road has been made, and remains a liability for all time. Great care, therefore, will have to be taken in deciding on the details of this roads programme, to ensure that the expenditure involved in making new or in improving existing roads is warranted in relation to the economic and administrative value of each particular project.

57. The total capital cost involved in the present proposals is of the order of £5,300,000 and it will take about three years more than the ten-year period of this plan to complete the programme, unless it is found that greater speed of accomplishment is possible and desirable. Maintenance costs during that period, however, are estimated at £1,465,300.

58. It is customary, in the case of feeder roads, for the Native Administrations to provide, on the average, fifty per cent of the capital cost, and, with minor exceptions, to carry out all necessary maintenance. This principle will be generally applied in this present scheme, although there may be the necessity in special instances for more favourable treatment in the poorer areas and where roads are a pre-requisite for the development of backward people. The maintenance costs of Trunk Roads ' A ' will fall entirely on the Central Government but in the case of Trunk Roads ' B ' it will be divided between Government and the Native Administrations according to the circumstances of each case.

59. A grant under the Colonial Development and Welfare Vote has been made to cover the cost of staff and plant for the first few years. It also provides the full installation and improvement costs for Trunk Roads ' A ', and Trunk Roads ' B ', and half of the cost of the feeder roads during the preliminary period 1944-45 to 1945-46, and the first five years of the present plan. The estimated value of this grant during the five years 1946-47 to 1950-51 is £1,661,000 but this will be subject to review in accordance with the annual estimates and programmes of work which will be submitted to the Colonial Office for consideration. While no commitment has been given for the same degree of assistance after the year 1950-51, it is confidently expected that a further free grant will be forthcoming. It will depend upon the experience gained during the first five years, and the conditions prevailing at the time when the matter is reviewed. There should, however, still be adequate funds available from the remaining portion of the Nigeria allocation from the Colonial Development and Welfare Vote for this further assistance, since a considerable amount of it has not yet been finally earmarked; alternatively some of the later work may have to be financed from loan or other sources.

60. Steps are already being taken to obtain expert advice in connection with this road development. Consultants and experts

are being employed for the purpose of surveying and designing several large bridges which will be required in the Trunk Road system, as well as smaller types of bridges where some of the new trunk roads will cut through swampy country.

61. Arrangements are also being made with the Ministry of Transport in the United Kingdom for scientific and engineering advice on methods of construction, particularly those which have been developed during the war, and which allow of much more rapid construction than the routine methods of the past.

IV.—Electrical and Hydro-Electrical Development

62. In Appendix IV the estimated immediate requirements of Nigeria in connection with electrical power installations have been carefully reviewed, and it is expected that about forty new installations will be required with considerable improvements to most of the existing ones.

63. Arrangements have already been made for the visit of experts to survey the possibility of using hydro-electrical power in those places where the flow of water is sufficiently regular to allow of this method of generation. In other cases various means of providing prime movers will have to be considered in relation to the geographical position, and the cheapest form of fuel in each case. It is probable that additional expert advice will be sought in these cases in order to assist in expediting those series of schemes.

64. On balance, these new and expanded installations should prove remunerative, but there will undoubtedly be a certain number where the provision of light and power is desirable, for various reasons, but which are unlikely to prove self-balancing for a considerable time. In recognition, therefore, of the desirability of such installations, a free grant of £370,000 has been made from the Colonial Development and Welfare Vote towards the scheme.

65. This money will be used to provide staff and to deal with specific installations during the first few years of the plan but all of the new schemes will be regarded as in a general pool and one profit and loss account carried for the whole of the country* The estimated total cost of the programme is £1,800,000, but it is doubtful whether this will be completed before about 1948 or 1949.

66. Apart from the £370,000 of free grant which has been given, the cost of these new installations will be provided from loan funds raised by Government under the Development Loan Ordinance and subsequent similar Ordinances. The operating account of the organisation controlling these electrical undertakings will be required to repay such loans over a twenty-year period, in the form of equated annuities estimated at £7 per annum per £100 of capital cost. The expenditure from Loan Funds during the ten years will be about £1,090,000.

67. The priority list of installations will be decided by the Central Development Board, based upon recommendations of Provincial and Area Development Committees and the advice of the Public Works Department and other specialists. Economy in the use of staff and equipment may, in some instances, take precedence over the local urgency of demand for electrical supplies.

V.—Extension of Tele-Communications

68. In a country of the size of Nigeria nothing can be of more importance than the development of a proper system of up to date tele-communications. At the present moment there are many parts of Nigeria where it takes from three to four weeks for a communi-

* It has subsequently been decided that the control of these electrical undertakings, including the existing Government undertakings, shall, by stages, be brought under a Government owned Electrical Corporation which it is intended to establish.

cation to be delivered and a reply received. Such a state of affairs cannot be allowed to continue if general development of the people and of commerce is to take place.

69. For the proper administration and development of the country it is important that all Government officers should be in close contact with their seniors, and the heads of their departments. It is also necessary that there should be adequate telegraphic and telephone communications for the trading community, and that the larger towns and trading centres should have a sufficiently high standard of telephone system that, when the time comes, they may be linked with an international wireless telephone service.

70. On this basis a scheme has been prepared for the extension and improvement of the existing system of telegraphs and telephones which will take some ten or twelve years to accomplish. Details of the proposals are summarized in Appendix V and the two schedules attached to it. The scheme will cost between £880,000 and £900,000 and will include, where conditions are suitable, the installation of wireless telephone units. The scheme also calls for the multiplication of trunk lines with proper repeater and amplifying services on thoroughly modern lines. Full advantage will be taken of discoveries and improvements which have arisen in this type of work as a result of the war and consultation with experts will be provided for where necessary.

71. At this stage it is not possible to state with any degree of accuracy exactly the form of equipment which will be used in each place or exactly where tele-communications — either telephone or telegraph—will be provided. The map attached at the end of this paper gives, however, the present approximate ideas of the form which the development will take but these original ideas will be subject to modification on further investigation and in the light of experience.

72. It has been recognized that in the earlier stages some portions of these extensions may not prove to be fully remunerative although they will provide services which will be of untold value in the development of the country. Consequently the Secretary of State has agreed to the provision of a free grant of £230,000 towards the cost of this development work, which represents, approximately, the estimated expenditure up to and including the financial year 1948-49. The remainder of the cost will be financed by means of an allocation under the Development Loan Ordinance.

VI.—Marine Development and Extension of Marine Waterways

73. The plan of development which has been prepared by the Director of Marine is calculated to bring the Marine Department more up to date in its activities so that the services which it renders to navigation may be improved and modernized; to allow of the opening up of new inland waterways and to improve existing ones: to provide additional dredging and sand pumping craft which on the one hand will assist in the improvement of Lagos and other ports, and at the same time provide the necessary sand so important in the reclamation of land and the work connected with anti-malarial operations.

74. The proposals set out in Appendix VI indicate the list of new works, new vessels and plant which will be required, as well as the provision needed for the replacement of existing craft which are approaching the end of their effective life. The estimates of cost in connection with all such vessels show the net figures after allowing for such items as may be available from the Marine Renewals Fund. The details of the proposed work, including the temporary staff required for its execution, are set out in detail in the Appendix and in Table IV and need not therefore be repeated here.

75. All of this work should prove to be either directly or indirectly remunerative to the country and will, therefore, be financed entirely by Nigeria without calling for assistance from the Colonial Development and Welfare Vote. The total expenditure involved, as shown in Table IV, amounts, over the ten years to:—(*a*) £351,740 for the employment of the temporary staff and expenses incidental thereto. This will be paid for from Nigerian revenues each year; (*b*) £624,200 to cover the cost of new works and services over the ten years. This will be financed from funds raised under the Development Loan Ordinance; (*c*) £1,542,000 representing the net cost, after allowing for allocations from the Marine Renewals Fund, for the purchase of an additional reclamation vessel, two new dredgers, the replacement of one collier and two bar tugs, the purchase of a survey launch and the provision of other equipment including instruments, buoys, beacons and lighthouses. This expenditure, however, only covers the first five years of this plan and, while it is too early to decide on what additional craft, equipment and special additional works may be needed in the second five years of the plan, it is almost certain that another £1,000,000 will be required for these purposes. All of this expenditure will be financed from allocations under the Development Loan Ordinance and subsequent ordinances of a similar character.

76. Maintenance of the development work and vessels provided under this plan will be carried out from funds regularly provided under the Marine Department's estimates.

VII.—Development of Medical and Health Services

77. The present situation in regard to Medical and Health services is set out clearly in Appendix VII where it is shown that they are far below the average in the Colonial Empire and, in some respects, as bad as anywhere in the world. In order to improve the situation a very substantial amount of expenditure will be required during the period of this plan and this is set out in summary form in Table V. This shows that, including the cost of buildings, an expenditure of £8,323,327 is to be expected. In addition, there will be a further £550,000 of expenditure to provide the necessary residential accommodation for the extra medical, nursing and other staff concerned.

78. This large programme has been the subject of considerable discussion in Nigeria and with the medical and other specialist advisers to the Secretary of State. The necessity for improved hospital facilities has been established as well as the need for field work in connection with epidemic and endemic diseases, midwifery and other necessities. Rural health centres are proposed as an ancillary service to the hospitals and from these further extension work will be carried out through dispensaries.

79. Training of staff will be of first class importance and will be a limiting factor in the early stages of this scheme. Special hospitals for maternity work, tuberculosis and mental health will be provided and these will be used as training centres in addition to other special training centres for nurses attached to the major hospitals. Further facilities will be provided for the teaching of pharmacy and training sanitary inspectors while extended services will be set up for dental and opthalmic work.

80. In order to assist in this important phase of development, the Secretary of State has agreed that all of the recurrent costs of this scheme for the first five years, plus the cost of equipment, shall be paid from the Colonial Development and Welfare Vote. He has also agreed in principle to further assistance being given during the second five years. It is expected that this will take the form of the

full cost in the sixth year, and a progressively reduced amount of assistance from the seventh to tenth years, so that Nigeria gradually undertakes the full burden of these services. Agreement to this grant has been given in principle only, and not in respect of any definite amount of money, since it is required that the actual expenditure and the assistance to be given will depend upon the preparation and approval of the estimates of each year's expenditure. On the assumption that the scheme, as at present formulated, will be carried through, it is estimated that the recurrent charges, which, will fall on Nigeria for the maintenance of this work after the year 1955-56, will be of the order of £1,000,000 per annum. This will be in addition to the cost of the maintenance of the services existing at the present time.

81. Besides the assistance already mentioned, the Secretary of State has agreed, in principle, to the provision, as a free grant from the Colonial Development and Welfare Vote, of half of the cost of the buildings involved in this scheme required for nurses' training schools, health visitors' training schools, rural health centres, epidemic and endemic disease treatment units, the pharmacy school, the general, mental and maternity hospitals and tuberculosis sanatoria. While this assistance has been promised in principle it is subject to review from year to year and to final approval by the Secretary of State when each year's estimates are submitted to him for confirmation. The actual amount of assistance may therefore vary as time goes on. The assurance, has been given nevertheless of a very generous amount of help towards this scheme.

VIIA.—Anti-Malarial Measures, Lagos

82. With one exception it is not proposed to deal with the provision of anti-malarial measures and treatment as a separate section of this development plan because such work will normally be connected with schemes of town planning and improvement of lay-outs. There may, however, be some instances where special proposals will have to be put forward and dealt with on the basis of local schemes to be financed through funds made available by the Nigeria Local Development Board.

83. The exception refers to Lagos and its immediate surroundings. The incidence of malaria in the Lagos district has always been a matter of considerable concern, and a scheme for land reclamation, drainage, and other anti-malarial treatment was started some eight or nine years ago which was expected to take the best part of twenty years to accomplish. The conditions prevailing during the war, however, necessitated a rapid acceleration of these plans.

84. Special works were, therefore, undertaken in association with the Royal Air Force, and subsequently an application was made for assistance from the Colonial Development and Welfare Vote towards a more rapid acceleration of the whole work contemplated, so that it could be completed by the year 1950-51. The anticipated expenditure from 1944-45 to 1950-51 inclusive, was estimated at £162,000, which includes the cost of special equipment. After discussion with the Colonial Office, a free grant of £132,000 under Colonial Development and Welfare Scheme D 464, was made towards the cost of this work. The amounts stated, however, do not cover the total cost of the works involved because the funds required for the acquisition of land, where this proves necessary, will be paid from the normal Nigeria vote for this purpose, while the pumping of sand for reclamation purposes will be carried out as a routine matter from the usual provision in the estimates of the

Marine Department. The maintenance of this anti-malarial work, as it is completed, will become part of the routine expenditure of the Medical Department

VIII.—Leprosy Control

85. The control of that insidious disease leprosy is dealt with separately from the general health services and a special scheme for assistance under the Colonial Development and Welfare Vote has been made by the Secretary of State. This scheme is, for the moment, to cover five years only and it remains to be seen to what extent further assistance will be given after the expiration of that period. Proposals are set out in some detail in Appendix VIII, from which it will be seen that a concentration of effort will be made in certain parts of the Western and Eastern Provinces in such a way that the experience gained thereby may be used to advantage in the extension of the work at a later stage.

86. The total cost of the five year scheme is £453,870, towards which a free grant of £428,875 has been made from the Colonial Development and Welfare Vote. The remaining money will be found by contributions from the Nigerian Government and the Native Authorities. Details are shown in Table VI.

87. It is yet too early to estimate what will be the cost of financing this scheme in the second five years but a figure of £100,000 per annum has been shown as the minimum amount each year for the succeeding five years. It is doubtful whether this will be sufficient, and at this stage, the origin of such funds cannot be decided with any certainty.

IX.—Development of General Education

88. This is a subject on which procedure has not yet been finally decided. In Appendix IX a series of proposals are set out based upon a memorandum of policy which has been drawn up by the Director of Education. Both the memorandum of policy and the proposed development scheme are at present under consideration by the Secretary of State's Advisory Committee on Education. Consequently these educational proposals cannot yet be regarded as final and, no doubt, may require some modifications before a decision is taken.

89. The broad outline of the proposals, however, is the extension and improvement of the standard of secondary education for boys and girls in Government schools and the setting up of a suitable number of teacher training centres including one for secondary teachers, so that there will be an adequate supply of staff for the schools as they are established. Four rural educational centres are also proposed.

90. The scheme, as drafted, envisages that a substantial portion of the educational work of the country will be undertaken in institutions other than those provided and staffed by Government. For this reason, provision has been made for capital grants and recurrent assistance to certain schools and training centres run by voluntary societies, provided the societies concerned are prepared to submit to a certain amount of Government inspection, supervision of expenditure and standard of curricula.

91. The development of primary education has not been touched on in any detail, as this is regarded as being a form of development which will be dealt with very largely on a local basis, possibly with grants-in-aid from Government.

92. In view of the fact that the Elliot Commission has made recommendations to the Secretary of State, who in turn has made a suitable allocation from the Colonial Development and Welfare Vote for higher educational purposes, no provision has been made in the present plan for these proposals but it is to be expected that some contribution from Nigeria will be expected towards the West African University College.

93. The Education scheme, as at present proposed, represents a total expenditure during the ten years of slightly under £6,000,000 of which £3,268,600 is in respect of the cost of buildings. The latter amount will be provided from funds raised under the Development Loan Ordinance and it is expected that there will be a fair amount of assistance from the Colonial Development and Welfare Vote towards the charges connected with Government Schools. The amount, however, cannot be stated at the present moment, as the scheme has not yet been approved by the Secretary of State. Summaries of the estimated annual expenditure in connection with this scheme are set out in Table VII.

X.—Technical Education

94. Technical Education is of such importance that a separate plan has been made for it, outside of the general Education plan. Because of this it was possible to obtain from the Secretary of State approval for appreciable assistance towards this work early in 1945 and in consequence preliminary work and preparations have been possible before the beginning of the ten-year period.

95. The shortage of properly trained artisans and technicians is at present one of the limiting factors in any real and rapid development; unless quick action is taken to provide facilities for proper training of such men, there must be a serious lag in the work of development. The importance of quick action is therefore obvious.

96. It is proposed that three Trade Centres shall be established, one in each of the three groups of Provinces, and it is expected that, when these have reached a stage of full working order, they will provide facilities for the training of 416 apprentices at any one time. The courses will vary in length according to the particular trade in question, but on the average they will continue for five years, during which time apprentices will also be given a certain amount of post-primary practical education. The courses will cover the building trade, mechanical, motor and electrical engineering, as well as smithing, sheet metal work, plumbing and welding. Particular emphasis will be placed on training for the building and kindred trades as these will be of such importance in the immediate future of Nigeria's development.

97. In addition to these centres, a technical institute will be established at Yaba, near Lagos, growing up alongside one of the trade schools which will be established there. This institute will provide more advanced training and will have accommodation for some 250 residential students. It will also provide classes for 1,000 to 1,500 external students. It is recognized that other technical institutes will be necessary at a later stage, but they are not provided for within the compass of the present ten-year plan.

98. The Institute will provide continuation classes at which any apprentices besides those trained at the Trade Centres may attain a still higher level of training and to allow of certain individuals progressing to the Intermediate degree standard. As a sufficient number of these more highly trained local men become

available further extension work in connection with technical and vocational training will be provided at Handicraft Centres to be established in all Provinces. These centres will give practical vocational training to pupils from local primary schools. Further details of the proposals are contained in Appendix X from which it will be seen that the over-all cost of the scheme during the ten-year period is £1,536,000, of which £421,000 is in respect of buildings which are shown under the building programme. The net cost, therefore, of the establishment and operation of the technical education proposals during the ten years will be £1,115,453. A grant has already been provided under the Colonial Development and Welfare Vote for a proportion of this expenditure during the first five years ending in 1950-51. The situation will then be reviewed in relation to progress made and desirable future developments, before a decision is made as to the extent of additional assistance which will be forthcoming from the Colonial Development and Welfare Vote.

99. The Nigerian share of expenditure which will be paid from revenue, during the first five years is expected to be £101,411, and the total over the ten years will be £266,722. It has been agreed with the Colonial Office that the cost of buildings for the first five years of this scheme will be provided as a free grant from the Colonial Development and Welfare Vote, but a decision has not yet been made in regard to buildings to be erected after 1950-51; that will be a subject for further consideration when the first five years' work has been reviewed.

XI.—Hausa Literature Bureau at Zaria

100. In Appendix XI an outline is given of the history and development of the Zaria Literature Bureau and the Hausa newspaper, *Gaskiya ta fi Kwabo*.

101. Beginning as a small off-shoot of the Department of Education, this Bureau has now been given the opportunity, through a large grant from the Colonial Development and Welfare Vote, to become established on such lines, that will allow of the expansion of its important work of stabilizing the Hausa language and providing text books and general literature in the vernacular so that educational work in the vast area of Northern Nigeria may proceed with greater speed and vigour.

102. Apart from the fundamental work of putting the language into written form as school text books, the Bureau will undertake the writing, editing and publishing of all forms of that literature, the supply of which will form the foundation on which mass literacy will flourish and expand. One of its important functions will be the production, first three times a week and later daily, of the newspaper *Gaskiya ta fi Kwabo* which will be the first of its kind bringing news to the people of the North in their own language. The educational value of this and its assistance towards the progress of the people in the North will be enormous.

103. Although the Bureau is being established with a capital grant, and a loan for working capital, it will nevertheless be placed upon a commercial basis. Legislation has been enacted which provides for progressively independent commercial management of its activities under the "Gaskiya Corporation", the Board of Management of which consists of nominations covering representative interests in the Northern Provinces.

104. The Corporation has been provided with a free grant of £163,550 for preliminary expenses and the capital cost of the buildings and equipment and anticipated deficit over the first three years.

Subject to the guarantee for the first three years, its activities will be run on commercial lines, but a loan of £25,000 for working capital has been made from the Colonial Development and Welfare Vote for a period of ten years, by which time the Corporation should have built up sufficient surpluses from its commercial account to provide its own working capital.

105. The work of this Bureau will be followed with interest and, on the extent of its success, will partially depend future policy in regard to the establishment of institutions for the publication of text books and literature in other Nigerian dialects.

Co-Ordination of Agricultural, Veterinary, and Forestry Development Proposals, and Extension of Commercial Activities

106. Each of the three Departments of Agriculture, Veterinary Services and Forestry, in its normal activities and in its development proposals, has a very direct bearing upon the economic conditions of the country and upon further developments of a commercial nature. While each Department has its own specialized sphere of influence, there are, nevertheless, many features of the work in each case with a direct bearing upon the work of the other two Departments. It is most important, therefore, from the point of view of economy, and to ensure a development of uniform general policy, that there should be the closest collaboration between these Departments and appropriate co-ordination of those activities which tend to over-lap.

107. In the past the application of much of the experimental work of these Departments has had to be extended by the Departments themselves on a commercial or semi-commercial scale because there was no other means by which such extensions could be effected. This, during periods of shortage of specialist staff, has made it necessary to divert the time and activities of scientific and highly trained officers to projects which could be undertaken equally well by less highly qualified men with a wider experience of commercial conditions.

108. In order to bring about the necessary collaboration and co-ordination of effort between these Departments, a Committee has been set up, known as the Co-ordination Committee for Agriculture, Veterinary and Forestry Services, consisting of the Development Secretary and the heads of the three Departments; they will be joined later by the Director of Commerce and Industries when he has been appointed.

109. As the name implies, the object of this committee is that of co-ordination and not of interference with departmental administration. It will, nevertheless, ensure that facilities are provided for discussion of those problems such as soil conservation, in which all departments are concerned, so that a uniform line of approach may be taken, thus preventing overlapping and duplication of effort and experiment. It will also ensure that there is uniformity of approach to the very important problems connected with live-stock rearing, the improvement of breeds, and the utilization of dairy and other animal products.

110. The committee will be able to discuss the application, on a commercial scale, of results obtained from the several departmental experiments, and the right stage when such experiments should be passed over to the Department of Commerce and Industries for further test under commercial conditions.

111. Since the development of an improved economy is fundamental to any general improvement in the lot of the people, the importance of the co-ordination of the work of these Departments cannot be over-emphasized. With this end in view the Secretary of State has indicated his willingness to provide a very substantial proportion of the cost of the development programmes of the Agricultural, Veterinary and Forestry Departments in order that their work may be safeguarded, from the financial point of view, irrespective of the financial position of Nigeria in the next five or six years.

112. The proposal is that, subject to the submission of annual estimates and the approval of details as the schemes progress, the Colonial Development and Welfare Vote will, with minor exceptions, provide the full cost of these three development programmes over the first five years. Thereafter the question will be reviewed once more and it is expected that assistance will continue but in a progressively reduced amount, so that the acceptance of responsibility may be gradually taken over by Nigeria until the full annual cost becomes a charge on Nigerian revenue in the year 1956-57. This system will ensure that the cost involved in giving a preliminary impetus in these developments will be paid from Imperial funds, with the reasonable expectation that by the time the full recurrent charges have to be borne by Nigeria, there will be sufficient improvement in revenue arising from the economic results of these particular development schemes to meet the liability without further difficulty.

113. The close collaboration of the Department of Commerce and Industries with these three Departments is of obvious importance, as it will ensure that experimental results are rapidly applied on a commercial scale. It will also ensure a proper outlet, and the best possible return to the producer, through organised marketing procedure. The means will be provided for the extension of commercial developments on a community basis so that a greater sense of responsibility and pride of ownership in developments may be instilled into the people themselves.

XII.—Agricultural Development

114. The proposals for the development of agricultural services are set out in Appendix XII. In a large measure they represent an extension of existing agricultural services so that the whole country may be adequately covered, and provision made for experimental stations, livestock improvement and multiplication centres, in order that the benefits of agricultural knowledge, research, and investigation, may be extended to the people generally.

115. As will be seen from the Appendix, experimental work is to be increased, and while the present proposals do not include any large research projects, several such schemes are under consideration and, it is hoped, will be mainly financed from the allocation made for research out of the centrally controlled portion of the Colonial Development and Welfare Vote.

116. The present proposals involve the recruitment of a number of fully trained men who will be supported in the field work by Development Officers with some background of agricultural knowledge. Provision is made for the extension of training for African staff up to certain standards, but courses leading to higher qualifications should become available as soon as the proposals for higher education have been put into effect. By the end of the ten years, therefore, the technical staff of the Department will have been greatly reinforced with Africans, trained either at the schools attached to the Department of Agriculture, or in the West African University College; it is to be expected that some of these men will proceed to further study in order to qualify for higher positions.

117. The cost of this scheme will be approximately £1,824,000 over the ten years and the Secretary of State has agreed to a free grant from the Colonial Development and Welfare Vote being made to cover the first five years expenditure, subject to the progress of the work being reviewed annually and the amount of assistance being subject to the approval of the annual estimates. The extent to which assistance will be given to this scheme under the Colonial Development and Welfare Vote, after 1950-51, has not yet been finally determined, although the Secretary of State has agreed in principle to further provisions being made. It is expected, however, that this assistance will take the form of progressively reduced amounts each year so that the full liability of the maintenance of these services may be gradually accepted by Nigeria until full responsibility is undertaken in the year 1956-57. The buildings required for the extension of the department's activities will cost about £465,000, apart from those needed for special research schemes. Approval has been given to half of the cost of these buildings being provided from the Colonial Development and Welfare Vote for the first five years and it is expected that similar assistance will be given during the second five year period. As in other cases, the actual amount of assistance will be subject to approval, by the Secretary of State, of each year's estimates connected with this scheme.

118. The expansion of the produce inspection section of this department will be carried out from Nigerian expenditure because this service is very largely self-supporting from fees charged for

produce inspection. There should be no question of the improved grading of produce resulting in returns to the producer far in excess of the charge for these inspection services.

XIII.—Development of Veterinary Services

119. The proposals for the Veterinary Department are set out in considerable detail in Appendix XIII. They include widescale campaigns for the treatment of disease, immunization work, and for investigation and treatment of trypanosomiasis. Livestock improvement and the study of the types of animal most suited for the various parts of the country will be another feature of this Department's activities, and this will be closely co-ordinated with similar work in the Department of Agriculture. Economic surveys will also be carried out by this Department in association with the Agricultural Department, and where necessary with the Forestry Department, while the further development of dairy and other animal products will proceed on an extended scale in association with the Agricultural Department with the commercial side handled by the Department of Commerce and Industries. Proposals are made for the important work of improving the standard of hides and skins for export. There is a wide field of work required in this phase of the Department's activities to ensure that the preparation of hides and skins is improved to a point where their full value is obtained by the producer rather than a discounted value arising from improper treatment in the early stages.

120. The scheme calls for a reinforcement of the European staff by fourteen new appointments, and the training of a considerable number of additional African candidates to bring them up to the standard required for veterinary assistants and microscopists. This training work will be carried out at the veterinary school at Vom in association with the West African University College.

121. The over-all cost of this ten-year scheme of development will be about £600,000 or, perhaps, a little more. Approval has already been given by the Secretary of State for the full cost of the first five years of this development being provided as a free grant from the Colonial Development and Welfare Vote, subject to the approval of each year's estimates and, while agreement in principle has been reached with the Secretary of State, that further assistance will be given in the second five years; the actual form which this will take and the amount involved cannot yet be determined until the question has been reviewed at the end of the first five years. It is confidently expected, however, that the form of assistance will continue as in the first five years but in a progressively reduced degree so that Nigeria undertakes the full responsibility for recurrent costs in 1956-57. The amount of building involved in this plan is not very large and the provision for hostel accommodation for Development Officers and additional quarters for staff at Vom, amounting to £19,000, will be provided from loan funds but the cost of the establishment of five livestock centres and ten immunization camps, where buildings will be of temporary or semi-permanent construction, costing a total of £55,000, will be the subject of a free grant under the Colonial Development and Welfare Vote. It is expected that some sections of this Veterinary development scheme will gradually become revenue earning and more or less self-supporting. The value of the work is such that it is confidently expected that the resultant improved economic returns from the livestock industry will far exceed the recurrent cost of this department's activities when the ten-year plan has been completed.

XIV.—Forestry Development

122. Because of the nature of this subject the proposals for forestry developments are necessarily less specific in detail than

those for the agricultural and veterinary departments. One of the important features of this work will be the establishment of a proper forest estate throughout Nigeria, interpreting the term in its widest sense. The establishment of this estate will require the simultaneous introduction of forest management on such lines that, at the appropriate stage, each reserve may be handed over to the Native Authority as a going concern.

123. Details of the proposals for this development scheme are set out in Appendix XIV, and a more lengthy document on the subject has been prepared by the Chief Conservator of Forests which will be available to Administrative Officers and other persons concerned.

124. As in the case of agriculture, the proposals, in so far as the department itself is concerned, amount largely to a wide expansion of its activities, with the consequent recruitment of additional staff, and the training of African officers for the purpose of gradual replacement of European officers and the acceptance of local responsibility.

125. The full cost of the ten-year plan is estimated at £982,000, but of this amount £100,000 is in respect of buildings which will be provided out of the allocation for buildings from the funds raised under the Development Loan Ordinance. A further amount of £68,000 relates to the provision of fourteen sawmills which will be operated on commercial account under the supervision of the Department of Commerce and Industries. These will be financed from loan funds and, as time goes on, further capital expenditure for the commercial operation of sawmills and other types of timber utilization may be needed. It is believed that, simultaneously, utilization projects such as the manufacture of plywood will be established by commercial concerns.

126. Of the remaining amount of £814,000 involved in this scheme, a considerable proportion is expected to be provided from the Colonial Development and Welfare Vote, on similar lines to the assistance granted to the agricultural and veterinary schemes, *i.e.*, with concentration of the assistance during the earlier part of the ten-year period. The Secretary of State has agreed to a grant, covering the full recurrent costs of the scheme, during the first five years, subject to annual approval of the estimates as the work progresses. Further assistance during the second five years will be considered on the same basis as that provided for agriculture and veterinary services, it being expected that it will be in a progressively reduced form so that full liability is undertaken for the maintenance of this work by Nigeria, with effect from the year 1956-57. By that time, many of the forest reserves will have been set up under a proper system of management, to be carried out by the Native Administrations on a business-like basis with every prospect of profit.

XV.—Department of Commerce and Industries

127. The functions of this new department have been described in Appendix XV and its activities and position *vis-a-vis* other departments have been referred to in other places in this paper more particularly in paragraphs 24 to 26, 38, and 111 to 113. Repetition of its functions is therefore unnecessary, except to emphasize that the future work of this department and its association with marketing and industrial development, with the assistance it will render to local communities in the development of their agricultural products and industrial activities, should be one of the principal contributions to the economic betterment of the country and the general uplift of the people arising from the ten-year plan.

128. The cost of the department cannot be ascertained with any degree of accuracy at the moment but it is expected that the central staff and organization will cost about £12,000 per annum or a little more. The expenditure on the employment of specialists for advisory purposes will have to be provided as and when required, while the cost of operating the subsidiary branches, such as those connected with fisheries, textiles and pottery, will be dealt with as individual schemes. The actual commercial activities of this department will, in all probability, take the form of local schemes financed through the proposed Nigerian Local Development Board and it is to be assumed that the marketing activities of this department will be largely self-contained in so far as staff requirements are concerned.

XVI.—Fisheries Development

129. A description is given in Appendix XVI of the proposals for the development of fisheries work prepared by the Fisheries Development Officer in consultation with Mr C. F. Hickling, the Fisheries Adviser to the Secretary of State, who has recently paid a visit to Nigeria and made a tour of the creek areas. These proposals must, to some extent, be regarded as speculative until further practical work has been carried out by the master fishermen to be employed under the scheme. The actual programme of work may, therefore, have to be modified in accordance with experience. For this reason it is particularly important that one, at least, of the master fishermen should be appointed as early as possible so that a certain number of empirical tests may be made to indicate the further lines of investigation which should be pursued.

130. The development of fish farming in the production of additional supplies of food in the Southern Provinces may prove to be one of the most advantageous aspects of the work of the fisheries branch. Again, however, the subject is one which requires very much more investigation but, provided an officer with the right experience can be found, useful results may be expected at an early date.

131. The fisheries scheme described in this plan refers only to the development of the creek, estuarine and river fisheries, including fish farming and methods of curing the products so that they may be transported inland.

132. The possibilities of the Marine fisheries of the Nigerian coast, both off-shore and in deep waters, have never been seriously investigated in the past, although a small amount of fishing does take place from canoes. It is, therefore, not possible to state what results may be expected from investigations in this field, and, as it will require the provision of craft of considerable capital value to carry out such investigations as well as the employment of a number of men of experience, it is believed that they will be undertaken by a West African Fisheries Research scheme, to be financed from the research allocation of the centrally controlled portion of the Colonial Development and Welfare Vote. There is reason to believe that such a scheme will be provided in the near future and that Nigeria will be given its fair share of attention as early as possible.

133. When the results of these researches and investigations become known, it will be time enough to decide on the form such further developments should take in Nigeria to put the results into effect on a commercial basis. There is no reason to assume, however, even if an abundance of supplies prove to be available in the deeper waters, that these will in any way conflict with the development of the creek, estuarine and river fisheries, because the

demand for cured fish in Nigeria has always been so high and the possibilities of further consumption are such that there is ample room for the development of both of these branches of fishing.

134. The scheme which is described in the Appendix XVI covers only the first five years of the ten-year period; it will then be necessary to consider the future needs in relation to the results obtained in this first five years, including the outcome of the investigations made by the West African Fisheries Research scheme into deep sea fishing.

135. The provision which is proposed under the five-year Nigerian scheme is £96.830 of which £31.000 is in respect of capital expenditure for buildings and launches. It is intended that the latter should be provided from loan funds and the recurrent expenditure out of Nigerian revenues. It is assumed that in the second five years of the ten-year period the recurrent charges will not be less than £12,000 per annum, but results from this work should more than off-set the cost of the investigations and the recurrent charges for the fisheries service.

XVII.—Development of the Peasant Textile Industry

136. This scheme is regarded as being one which will show quick results in assisting the peasant population to better their output in quantity and quality in a series of indigenous industries; industries which count a great deal towards the cash income of many of the peasantry and provide part time occupation during the period of the year when agricultural operations are less important.

137. Old as these industries may be, there is ample room for rapid improvement in output by means of more modern technique, and the scheme which is described in Appendix XVII has been planned with the objective of effecting such improvements. It provides for the establishment of eight centres, where investigations and administration work will take place and which are intended to become the foci of extension of improved methods of spinning and weaving and for assisting the people to market their products to the best possible advantage and to purchase their raw material, dyes, etc., at a reasonable price.

138. Like all such industries the Nigerian textile industry suffers from a bottleneck in the shortage of home spun yarn. Hand spinning methods are, relatively, much slower than hand weaving processes and, therefore, hand spun yarn has, invariably, to be supplemented by the machine made product. There is, however, ample raw cotton in Nigeria, although not all of the best types and staple, which could be utilized for spinning instead of being exported. The question, therefore, will arise in due course as to the best means by which the supply of local yarn can be supplemented. While no final plans have yet been made, it is possible that a central spinning plant may have to be established to ensure that the industry is not starved of its semi-manufactured raw material.

139. A wide variety of work is undertaken in the various forms of weaving in Nigeria and, although the making of cloth represents the largest part of the industry, there is a great deal of mat making which can be improved by giving attention to the methods employed and the preparation of the raw materials. There is a large market for this type of product in Nigeria and experiments are now taking place with a view to the establishment of an export trade.

140. The scheme for improvement and development of textile industries has been formulated, in the first instance, on a five-year

basis calculated to cost £90,685, including capital expenditure for buildings, a laboratory and equipment, the employment of a dye chemist and fibre expert and the provision of the necessary working capital for the demonstration centres. Towards this, assistance of £53,450 has been granted from the Colonial Development and Welfare Vote; the remaining amount will be found from Nigerian revenues and it is intended that after 1950-51 the maintenance of this work shall also be provided from that source, the estimated cost being between £9,000 and £10,000 per annum.

141. Consideration is being given to the establishment of a similar type of organization to deal with the pottery, brick and tile making industries.

XVIII.—Social Welfare

142. The question of dealing with social welfare problems in a country at Nigeria's stage of development is discussed in Appendix XVIII as well as in other places in this paper. The importance of such work cannot be overestimated but, on the other hand, it is very difficult to define the lines on which the wide assortment of problems can be tackled in such a mixed and varied community.

143. In Lagos and some of the other ports the impact of European ideas, owing to contact with shipping and trade, has created problems peculiar to these places, and not dissimilar to those which are found under normal European conditions. The problems in such places are intensified by the steady drift of population which has taken place in recent years from the country to these towns. Consequently in Lagos itself, and possibly in other ports, special forms of social welfare services will have to be established. In such cases, while general direction of the work will be undertaken by Government, assistance may be expected from voluntary efforts and societies, some of which receive subventions from Government.

144. In the country districts, the problem is entirely different. The population, in most cases, has not yet reached the stage of education to allow of the development of such activities as "4-H" Clubs and other youth organizations. In many cases the people in the country districts frequently live in communities too scattered to make such clubs attractive. There are, nevertheless, ample opportunities for social welfare work in all parts of the country and many of the schemes within this ten-year plan will have a direct social welfare value.

145. It is intended that social welfare work in the Provinces shall be the responsibility of the Administrative Officers, supported and advised, where necessary, by those with special aptitude and training in social welfare work as applied under African conditions. The Development Officers will also help in this work. Time will tell to what extent special staff will require to be recruited.

146. As a beginning, however, a Principal Assistant Secretary has been appointed to handle welfare matters in the Central Secretariat and it is intended to appoint men with local knowledge, mostly Administrative Officers with a special aptitude for this work, who will be given facilities for taking special courses, to be welfare co-ordinating officers in the headquarters of each Chief Commissioner.

147. A special organization will be set up in Lagos because of the problems peculiar to that town.

148. It is difficult to estimate the cost of the services which will be required but the estimated expenditure, including certain subventions to voluntary societies and associations, in 1946-47 will be

£32,000. Undoubtedly this figure will be increased as time goes on but the expenditure must be found from Nigerian resources in order that the country shall immediately understand its responsibilities in matters of this sort. The social value of certain aspects of other development schemes cannot be stated with any accuracy in terms of money.

XIX.—Town Planning and Village Reconstruction

149. Many of the schemes in this plan, such as the provision of water supplies, schools, dispensaries and other services, will all contribute towards the better living conditions of the people in the towns and country villages. But it is important that where such facilities are being provided, steps should also be taken to ensure that the provision of proper amenities and the improvement of housing and living conditions should be given serious and simultaneous attention. This is where planning on a local basis will be most important, and where the services of the Development Officers should be used to great advantage.

150. There is scarcely a town in Nigeria that is not in very serious need of replanning, and the proper laying out of further extensions; the demand for such work is becoming more vocal every day. In the villages the situation is usually just as bad, but the people generally have not yet appreciated the value of orderly planning and properly considered lay-outs, although many improvements have been effected as a result of the enthusiasm of Government officers and Missionaries.

In order that proper steps might be taken to improve the position, an Adviser was appointed for a time on the staff of the Resident Minister for West Africa, and he, with his town planning staff, has prepared a number of preliminary schemes for the lay-out and reconstruction of some towns in the Southern Provinces. There is a vast amount of planning work still to be done and in order to accomplish this the Department of Public Works is being reinforced with a number of town planning officers as a part of its permanent establishment. The work of village reconstruction will also be assisted by the advice of these officers, but the accomplishment of it must be inspired and supervised by the Provincial Administration and the Development Officers, working with the Native Authorities.

151. It is expected that legislation will be enacted at the forthcoming session of Legislative Council to provide for the setting up of " planning authorities " wherever they may be needed for townships, villages, or any sized region which may be appropriate for planning treatment. This legislation will give power to the Governor to declare planning areas and to set up the necessary authorities who will carry out the work of preparing schemes and putting them into effect. Such authorities will be eligible for loans and grants under the proposed Nigeria Local Development Board, for the establishment of which legislation is also expected to be enacted at the forthcoming session of Legislative Council.

152. In addition to the local provision of services, professional, technical and financial, referred to above, an allocation has been made under a scheme financed from the Colonial Development and Welfare Vote for the grant of some assistance towards approved schemes of town planning and village reconstruction. This will be used for the provision of suitable amenities, and in some instances for assistance with housing schemes. It will be limited to a maximum of 33⅓ per cent of the cost of the appropriate portions of town planning schemes, and to 10 per cent of the estimated over-

all value of the work accomplished by the people themselves or the Native Authorities in the case of villages.

153. A schedule will be prepared each year of those villages and town planning authorities who are recommended for such assistance, and their cases will be considered by the Colonial Office before approval for the free grants are given. This assistance has been promised in the first instance only for the first five years of this plan, and the grant contemplated is £156,000 during that period. The subject, however, will be reviewed at a later date, and it is hoped that further assistance may be granted during the second five years of the planning period.

XX.—Development Officers

154. The proposal for the provision of special officers to augment the Provincial Administration in giving effect to development schemes, has been dealt with in some detail in the earlier Paper "Preliminary Statement on Development Planning in Nigeria." It is also referred to in Appendix XX to this Paper, and in various other places in the text.

155. These officers will be appointed on a temporary basis and will normally be required either, to relieve Administrative or Technical officers of their routine duties in order to free the latter for work in connection with planning and execution of development schemes, or, to undertake subordinate office or field work, or executive work under the District Officer in connection with local planning and the execution of development schemes on a village or small regional basis.

156. The original proposal was that these officers should be restricted to the type of activities set out above, and a scheme was made by the Secretary of State for the provision of one hundred of these men during the ten-year planning period, the cost being provided from the Colonial Development and Welfare Vote. A grant has already been made of £400,000 to cover the estimated cost of these officers up to and including the year 1950-51, and an assurance has been given that the scheme will be continued with the same measure of assistance for the remaining five years of the planning period.

157. The shortage of fully qualified officers for agricultural, veterinary, and forestry work, has now shown that there will be room for the employment of this type of officer, provided he has the right outlook and background, in connection with these more specialized development schemes. It has, therefore, been decided to increase the number of men recruited by about thirty or forty with a view to their being posted to the Departments named. The cost of these additional officers will be borne from the particular schemes relating to those Departments.

XXI.—Statistics

158. The need for the collection of statistics as a foundation for proper development has been discussed in Appendix XXI, and it is intended that a Statistical Branch of the Central Government should be set up, probably in association with the Department of Commerce and Industries, which will be responsible for the collection of all statistics relating to Nigeria.

159. The details of this organization remain to be worked out under the expert advice of Mr Herbert Marshall, Acting Dominion Statistician of the Canadian Government, who has already provided most useful and valuable preliminary advice. Until his final recommendations have been made it is not possible to assess with any degree of accuracy the size of the Branch required, or the cost

of its annual maintenance. The possibility is, however, that it will cost between £10,000 and £12,000 per annum for the compilation of general statistics and allied information. This will not include the cost of a census, which it is proposed shall be carried out in 1951, and towards which, it is hoped some assistance will be granted from the Colonial Development and Welfare Vote.

XXII.—Building Programme Involved in the Development Plan

160. From the outset it was realized that the accomplishment of a ten-year plan of this magnitude would involve an enormous amount of building, which would be far in excess of the capacity of the Public Works Department and such contractors as are available with their present staff and equipment. In consequence a special scheme had to be prepared in order to provide the machinery to deal with the buildings involved.

161. It is estimated that the total amount of buildings, of a permanent or good semi-permanent construction, will involve an expenditure of slightly over £9,000,000 to fulfil the requirements of the various schemes in this plan. While a certain amount of this work will be undertaken, from time to time, through the capacity of the regular Public Works establishment, the vast majority will have to be dealt with by temporary staff who will be recruited for the purpose and attached to the Public Works Department.

162. In order to accomplish this work fifteen additional architects and sixty-six additional inspectors of works will be required. The cost of this staff, including passages and all forms of allowances and travelling, will, at the peak, amount to £81,000 per annum.

163. In addition provision will have to be made for special plant and vehicles which are expected to cost £10,000 per annum; the cost of materials, labour and transport in connection with the actual building work is estimated at £8,213,300 during the ten years.

164. While, at this stage, it cannot be determined with any final degree of accuracy, precisely the extent to which this provisional programme will be ultimately accomplished, the present estimates are as follows:—

	£
Cost of staff and central plant (for ten years) ...	821,000
Buildings for:—	
Medical and Health Scheme (hospitals, general and specialist; nurses' training schools, health visitors' training schools, rural health centres, epidemic and endemic diseases units, pharmacy school and tuberculosis sanatoria but excluding certain hospital and other buildings which were approved before 1945 and will be built during the period of the plan from ordinary Public Works Extraordinary provision.)	3,260,550
Housing for Medical Staff	550,000
General Education Scheme (secondary schools and teacher training centres.)	1,938,600
Technical Education Scheme (trade schools, etc.)	421,000
Agricultural Scheme (excluding temporary buildings which will be erected by the Department.)	472,900

	£
Forestry Scheme (principally houses and offices.)	92,500
Veterinary Scheme (residential accommodation at Vom.)	19,000
Miscellaneous Schemes (and unallocated amounts for above Schemes.) ..	1,458,750
	£9,034,300

165. The estimates set out above are, of course, very provisional and will need a good deal of modification as the over-all plan progresses. Each year's building programme will have to be specially considered in relation to the progress of each individual scheme and the necessity for the modification of original proposals in the light of experience.

166. At the first stage in the formulation of the general plan, it was thought that possibly these buildings might be all provided from the Colonial Development and Welfare Vote. As the preparation of the plan has progressed, it has become obvious that the amount available to Nigeria under the Colonial Development and Welfare Vote could be applied to better advantage and that the majority of buildings could be financed out of loans to be raised by the Nigerian Government. It has been approved by the Secretary of State, however, that, in principle, assistance should be given from the Colonial Development and Welfare Vote towards a part of the building programme associated with the Health and Medical Services scheme, the Agricultural scheme and the proposals for the development of Technical Education.

167. In consequence, over the first five years, a free grant will be given to cover the cost of staff and plant, half of the cost of buildings connected with the Health and Medical Services Scheme (with the exception of housing required for medical staff), half of the cost of buildings for the Agricultural scheme and the full cost of the buildings for the Technical Educational scheme. In addition, the remaining cost of the Zaria Secondary School, which it was agreed should be provided under a previous scheme, will also be included.

168. The total expenditure anticipated to be required over the first five years will amount to £2,626,300. Of this amount, it is expected that £1,206,250 will be provided as a free grant. The details making up these two amounts are as follows:—

	Total estimated expenditure 1946-47 to 1950-51	Expected assistance from Colonial Development and Welfare Vote 1946-47 to 1950-51
	£	£
Staff and Plant	366,000	366,000
Cost of work:—		
Medical and Health scheme ...	961,800	480,900
Housing for Medical staff ... (Public Works Extraordinary)	136,000	
General Education scheme ...	566,800	
Technical Education scheme	172,000	172,000
Agricultural scheme	310,700	152,350
Forestry scheme	59,000	
Veterinary scheme, Zaria Secondary School, Unallocated	54,000	35,000
	£2,626,300	£1,206,250

This will leave an amount of £1,420,000 to be found from loan funds.

169. On the assumption that the total expenditure over the ten-year period will approximate to the original estimates, there will be a further amount of £6,408,000 to be financed during the second five-year period and, while a final commitment has not been made by the Secretary of State as to the exact amount of assistance which will be given during the second five years, a continuation of the grant in the form given over the first five years would amount to an additional grant of £1,935,000 during the second period. On the assumption that this is forthcoming it will leave an amount of £4,473,000 to be financed from loan funds during the second half of the plan.

XXIII.—Provision for Local Development Schemes

170. The schemes set out in this plan are all major schemes, affecting Nigeria as a whole, and are fundamental to other forms of development but it is clear that our objective will not be achieved unless the plan is supplemented by schemes for purely local development. Many Native Authorities possess surplus balances materially exceeding the amounts which need be kept in reserve against emergencies and these Administrations are naturally anxious to employ their surplus funds on local schemes of development and welfare. Other Native Administrations are financially in a less advantageous position and it is important that their relative poverty should not mean that the needs of the areas in their charge are overlooked. It is plainly desirable that Native Administrations and other suitable local authorities and bodies should be in a position to obtain financial assistance from central funds and, for this purpose, it is necessary that machinery and finance should be established to deal with local schemes.

171. A proposal is, therefore, under discussion with the Secretary of State which, it is hoped, will result in a Bill being placed before the Legislature to set up a Board to be known as the "Nigeria Local Development Board", whose functions will be primarily associated with the consideration and financing of these local schemes. The exact financial procedure to be followed by this Board has yet to be determined, but the intention is that money should be provided through an allocation from loan funds, and where necessary by Votes of the Legislature, so that the Board may make loans or grants, or part loan and part grant, to Native Authorities, Co-operative Societies and Planning Authorities, established under the proposed Town and Country Planning Ordinance, and such other authorities and bodies as may be approved from time to time, in connection with:—

(*i*) schemes for public works, public utilities, town, urban, and village planning, and similar projects;

(*ii*) the promotion and development of village crafts and industries, and the industrial development of the products of Nigeria;

(*iii*) for colonization and land settlement, land utilization, and the establishment of forest and firewood plantations and similar projects;

(*iv*) the setting up and operation of experimental undertakings for the testing of industrial or processing developments of any Nigerian products;

(*v*) other suitable projects, approved by the Governor in Council.

It is anticipated that the Board will be an important instrument in local development throughout Nigeria: it will serve to ensure evenness of development and to stimulate a sense of initiative and

responsibility in local authorities, who will be able to adopt schemes of development without sole reference to the state of the local Treasuries.

172. One of the important developments, which it is intended shall be proceeded with immediately under the auspices of this Board, is the establishment of factories in the Eastern and Western Provinces for the improved extraction of palm oil. It is intended that these factories should be established in the first instance by the Department of Commerce and Industries, but passed over, under suitable conditions, for operation by the Native Authorities or Co-operative Societies concerned, as early as possible, through loan schemes arranged by the Nigeria Local Development Board. Similar procedure will be followed in connection with the erection of small sawmills and other utilization centres for forest products.

173. Under this scheme assistance and loans will also be provided to various Planning Authorities set up for the purposes of replanning of townships and the reconstruction of villages. In other cases, assistance in the form of grants or loans or both, may be given to Native Authorities to assist them in various sorts of developments for which they have not the immediate funds required in their own reserves.

174. This proposal is regarded as being one of the most important of all the schemes in this general plan, and, while it cannot be stated, at this stage, exactly how much money will be required, it is thought that at least £1.250,000 should be allocated from the money raised under the Development Loan Ordinance to cover the needs of the first five years.

175. Subsequent requirements will depend very largely on the success of the first five years' work, and whether money returned to the Board in connection with the repayment of loans, will be available for re-issue as further loans.

XXIV.—Development of the Lagos Area

176. Apart from the requirements for harbour improvements and extensions to water and electrical services, nothing has been stated in this Plan, in connection with the development of the town of Lagos which, at the present moment, presents a variety of very serious and urgent problems which may involve some heavy capital expenditure.

177. It has been decided, therefore, that this particular problem shall be dealt with separately, and a Commission has been appointed by the Governor to investigate and make recommendations. This will take time, and the recommendations are unlikely to be available for several months to come. In these circumstances the subject will have to be dealt with as a subsidiary portion of this plan to be submitted to Legislative Council at a later date.

FINANCIAL IMPLICATIONS OF THE TEN-YEAR PLAN

General

178. At this stage it is not possible to estimate the final cost of the plan in detail but careful calculations have been made of the cost of the major schemes on the assumption that they will be completed without substantial modification. While it is certain that many schemes will be modified as time goes on, it is unlikely that this will make any serious alterations in the cost, unless work is appreciably slowed down. Through the provision for Local Schemes of Development and allowance for a certain amount of unallocated or less certain expenditure, there is a sufficient margin within the total of £55,000,000 to allow for the sort of additional development work which is not at present provided for in detail. Two important subjects are not included, however, the development needed in Lagos and possible developments in the Cameroons, but these cannot be determined at present and will need special separate consideration at a later stage.

179. The total of £53,000,000 shown in the "Summary of Estimated Expenditure" may be taken, therefore, as a fair measure of the over-all cost of the plan, after allowing for reasonable modifications and afterthoughts in the light of experience but exclusive of the two items mentioned above. Of this total there will be some £15,800,000 of expenditure suitable for financing from loans to be raised by the Nigerian Government. Towards the remaining £38,000,000 odd, there will be the generous contribution of £23,000,000 allotted to Nigeria under the Colonial Development and Welfare Act leaving between £15,000,000 and £16,000,000 to be found from Nigerian revenue. The latter amount includes, loan service charges but, as some of the schemes to which loan money is to be applied will be revenue earning, there will be contributions from them towards the loan charges which can be set off against the liability to Nigerian revenues. This is explained in greater detail later.

Assistance under the Colonial Development and Welfare Act

180. In connection with the contribution under the Colonial Development and Welfare Act, the Secretary of State has directed that detailed schemes may not be made for longer than the first five of the ten-year period, although, in many instances, there is an understanding that further assistance will be forthcoming within the total of the £23,000,000 allotted to Nigeria. Consequently, although an over-all estimate has been made for the ten-year period, the details of expenditure associated with schemes to be assisted under the Act and the complementary expenditure from Nigerian funds are only shown in detail for this five-year period. Those schemes which have been approved by the Secretary of State are, nevertheless, subject to annual review through the process of his approval of the annual estimates. Therefore, the figures shown in the summary of expected assistance during the first five years are only approximate and are subject to this over-riding consideration.

181. The order of the amount of assistance, which it is expected to receive over the five-year period, is as follows, but this excludes any assistance towards the General Education plan, which has not yet been dealt with by the Secretary of State, and towards which it is hoped that a further amount of about £210,000 of assistance will be provided.

	£
Rural Water Supplies	1,752,000
Urban Water Supplies	854,500
Road Development	1,661,000
Electricity Development	355,000
Tele-communications Development ...	180,000
Anti-Malarial Measures, Lagos ...	114,000
Medical and Health Services Development	1,119,764
Leprosy Control	362,445
Technical Educational Development	342,117
Gaskiya Corporation	127,350
Agricultural Development	529,388
Veterinary Development	306,775
Forestry Development	233,327
Textiles Development Scheme ...	53,405
Town Planning and Village Reconstruction	156,000
Development Officers	375,500
Building Programme for Development	1,206,250
Sleeping Sickness Service	17,000
Mission Advisers on Education ...	9,000
Kumba-Mamfe Road	10,100
Colliery Housing	9,000
Veterinary Training School	11,950
Total	£9,785,871

182. This total includes the provision for remaining expenditure to complete a certain number of schemes which were approved under the previous (1940) Act and which have overlapped into the period of the present plan. The remaining expenditure on these earlier schemes, amounting to about £57,050, will be a charge against the £23,000,000 allotted to Nigeria under the 1945 Act.

183. From the above calculations it will be seen that there will be some £13,000,000 still left from the Nigerian allocation under the Colonial Development and Welfare Act and available for assistance towards the present schemes during the second five-year period and for any other schemes which may be formulated during the interim.

Loan Expenditure

184. The schemes for which provision is to be made from loan funds are not numerous, and although the requirements can only be estimated with accuracy for the first five years, the projects involved are sufficiently clear-cut that it is possible to make a fairly close approximation of the expenditure for the remainder of the period. The exception is the provision for local schemes of development in connection with the Nigeria Local Development Board; in this case the needs cannot be accurately gauged until the Board has been in operation for a year or two.

185. A statement of anticipated loan funds requirements is given in the summary on page 40 indicating a total of £15,807,475 It is possible that the figure may be slightly increased as the result of further developments during the ten-year period, although the actual amount will be influenced to a considerable degree by the rate of progress made with the major schemes and the consequent influence on the building programme.

186. Four, at least, of the schemes to be financed from loan funds will be either directly or indirectly revenue-earning. Both tele-communications and marine developments should produce an

increase in revenue, at least sufficient to pay the charges on the loan monies involved, and, in course of time, these revenues should exceed the respective loan charges.

187. In the case of urban water supplies and electrical developments, it is intended that the operating authorities or the operating accounts concerned should repay the loans involved in full with interest, over a period of twenty years. This will be effected by means of equated annuities probably calculated at the rate of £7 per £100 of the loan concerned. In these cases, not only will the full amount of the respective loan servicing charges be reimbursed to the Nigerian Government, but additional money will be available to be placed in a supplementary sinking fund.

188. On a calculation, which is necessarily rough, the total amount to be found for servicing charges for development loans over the ten-year period is estimated to be about £4,000,000 (based on three and a half per cent and one per cent statutory sinking fund). There will be an offset against this, from revenue arising from marine and tele-communications developments and the repayments from the urban water supplies and electricity schemes. This is expected to amount to some £2,500,000, leaving a net charge of say £1,500,000 against revenue.

189. It is more than likely that loans will be raised at a lower rate of interest than three and a half per cent, and if this proves to be the case, the net cost of loan servicing charges to the Nigerian Government will be further reduced. In either case the annual payments should be no serious embarrassment, as they will almost certainly be less than the saving on present annual loan charges to be effected when the three outstanding Nigerian loans which reach their first maturity date between 1947 and 1951 have been partly redeemed and the remainder converted to a lower rate of interest.

190. Of the £15,800,000 loan money required, £8,000,000 will be required in the first five years, and a Bill will be placed before the Legislature at the forthcoming session to authorize the floating of the loan. It is unlikely, however, that the loan will be raised for at least another two years; in the interim, necessary expenditure will be covered by advances from Government surplus balances in anticipation of the raising of the loan.

191. Should it be necessary to provide finance for developments in Lagos and the Cameroons, the question of increasing the total loan to be raised during the ten-year period of the plan will have to be reconsidered with the view to an upwards revision.

Expenditure from Nigerian Revenues

192. In a previous section of this memorandum it has been shown that the liability to be faced from Nigerian revenues for the accomplishment of this plan will be between £15,000,000 and £16,000,000, including the gross amount for loan charges. It has been explained in the immediately preceding section that, of the £4,000,000 for these loan charges, the net liability against revenue may be about £1,500,000 only. On this assumption, the over-all liability against revenue would be reduced to between £12,500,000 and £13,500,000 and this total will have to be progressively provided in the annual budgets during the ten years.

193. Until the plan has developed further, and a decision has been arrived at as to the form in which the assistance under the Colonial Development and Welfare Act will be applied during the second five-year period, it is not possible to give any really close approximation of the figures which will have to be included in the budgets of the second period. The summary of expenditure from

Nigerian funds for the first five years (summary on page 41) does show, however, as closely as possible, the estimated annual liabilities including gross loan charges for the first period. The indications are that in the year 1946-47 the contribution from revenue will be approximately £316,000 rising to £1,144,000 in 1950-51. It is apparent that from 1951 onwards the revenue contribution will rise steadily, until it reaches a *gross* amount of at least £3,000,000 in the year 1955-56. (£2,520,000 net after adjusting for loan service payments from revenue-earning schemes).

Residual Recurrent Charges after the Plan is Completed

194. In the descriptions of the individual schemes it has been explained that a number of the plans involving capital expenditure, e.g. water supplies, roads, etc. will not be completed at the end of the ten-year period. It would be unwise, however, to speculate as to the possibility of finding the capital necessary to complete these schemes, so far in advance Even if Imperial aid ceases in 1956, there is good reason to view the future with a reasonable sense of optimism, and no doubt either further loans will be raised or other forms of finance be found to complete these projects.

195. At this stage, however, the important factor to be considered is the *residual recurrent charges* which will become a permanent liability against Nigerian revenues for the maintenance of the development work effected or initiated under this Plan.

196. It is not easy, so far in advance, to make any such estimates because many factors may influence the situation ten years hence. Even a calculation based upon the assumption that the present plan will be completed in its original form, is not a safe measure of the final recurrent charges, because the current costs of labour, materials and other subjects of expenditure, in ten years' time, may be entirely different from those prevailing at the present moment. The following figures are, therefore, purely speculative but do give some indication as to what may have to be faced annually from 1956 onwards :—

	£
Maintenance of new roads	420,000
Tele-communications Development — maintenance	32,000
Marine Development — maintenance	42,000
Medical and Health Services	960,000
Leprosy Control	80,000
General Education Developments ...	500,000
Technical Education Developments ...	100,000
Agricultural Developments (less Produce Section)	260,000
Veterinary Developments	64,000
Forestry Developments	158,000
Textiles Scheme	10,000
Fisheries Development	10,000
*Field Officers for Development ...	100,000
Sleeping Sickness Service	49,000
Veterinary Training School	10,000
Maintenance of Buildings provided from Development Building Programme (1½ per cent)	135,000
Other supervisory charges for maintenance	20,000
Loan charges	711,000
	£3,661,000

* This figure has been inserted on the assumption that a field service will have to be maintained, progressively Africanized, to continue the service of co-ordinating activities on the village and small region basis.

197. Against this estimated annually recurrent residual charge of £3,661,000 there will be several offsets, including about £470,000 representing contributions from revenue-earning schemes previously described and small amounts of revenue from other schemes.

198. It is not reasonable to assume, however, that the net amount, which will be of the order of £3,000,000, will be beyond the capacity of Nigeria to provide from its revenue. The road scheme alone should produce a considerable increase in motor taxes, import duties and petrol tax, while the majority of the other schemes should all have a very important indirect effect in improving the economic condition of the people so that revenues will be correspondingly increased. In fact, based upon the history of the revenue of the Dependency during the last twenty years, it is not too sanguine to expect that the £3,000,000 required annually will be achieved as a normal progressive increase in revenue without any material effects resulting from this ten-year Development Plan. This being the case, it is to be hoped that the plan will not only be accepted but carried out with vigour and with the assurance that the maintenance of services provided will be well within the capacity of the Nigeria of the future.

199. **Conclusion.**—The plan which has been put forward in this Paper has a very considerable scope and involves what may be considered a large expenditure of money. For those reasons, it may perhaps be criticized as being beyond the resources of the country. The preceding paragraphs should show that this is not the case.

200. At present Nigeria is involved in a vicious circle. Improvements of the health and physique of the people are impossible without expenditure on the necessary services, while, on the other hand, the money necessary to perform and maintain these services will not be forthcoming until the productive capacity of the people has been increased; yet this again cannot be brought about until the general health and standard of living of the people have been improved.

201. The plan attempts to provide a means of breaking that vicious circle and the necessary cushion required to ease the breaking process will be provided through the contribution from the Colonial Development and Welfare Vote. Even if this had not been forthcoming, it was necessary that Nigeria should embark upon a plan of development in order to elevate the conditions of life of its people so that their output might be greater and their economy correspondingly improved. But whatever may be done in Nigeria to effect this improvement, it cannot become stable unless produce prices are maintained at economic levels and the people are not forced back to a condition of " poverty bottom " in their agricultural economy. On the other hand they must understand that improved agricultural returns cannot be attained without hard work.

202. Nothing great is ever achieved without faith, and above all, this development plan, if approved, will be an act of faith on the part of His Majesty's Government and the Legislature in the people of this country and the future of Nigeria

Nigerian Secretariat.
5th December, 1945.

F. E. V. Smith,
Development Secretary

Amended as the result of the deliberations of the Select Committee of Legislative Council.

F. E. V. Smith,
Development Secretary and Chairman of Select Committee.

30th January, 1946.

TEN-YEAR DEVELOPMENT PLAN FOR NIGERIA

Summary of Estimated Total Expenditure — 1946-47 to 1955–56

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Total Estimated Cost
	£	£	£	£	£	£	£	£	£	£	£
1. Rural Water Supplies	153,500	248,500	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	4,002,000
2. Urban Water Supplies	210,000	250,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	4,060,000
3. Road Development :—											
(*a*) Capital Expenditure	266,000	475,000	585,000	585,000	605,000	605,000	605,000	605,000	625,000	625,000	5,581,000
(*b*) Maintenance of New Roads	6,300	22,400	51,300	85,500	121,400	159,000	197,600	235,800	273,000	313,000	1,465,300
4. Electricity Development	187,400	476,800	216,000	97,000	111,800	256,400	60,300	50,700	50,800	37,000	1,544,200
5. Telecommunications Development	50,000	50,000	80,000	80,000	80,000	80,000	100,000	100,000	100,000	100,000	820,000
6. Marine Development :—											
(*a*) Temporary Staff	24,368	29,534	32,744	34,274	35,804	36,650	37,724	39,254	40,214	41,174	351,740
(*b*) New Works	49,000	89,250	82,250	82,250	84,250	70,250	50,250	47,250	44,250	25,200	624,200
(*c*) New Plant and Vessels	737,500	537,000	260,000	7,500	—	(200,000)	(200,000)	(200,000)	(200,000)	(200,000)	2,542,000
7. Anti-Malaria Measures, Lagos	20,000	24,000	24,000	24,000	22,000	—	—	—	—	—	114,000*
8. Medical and Health Services	102,609	156,744	215,972	281,424	363,015	577,879	657,804	821,470	878,861	1,006,999	5,062,777†
9. Leprosy Control	83,530	96,410	104,280	98,220	100,000	100,000	100,000	100,000	100,000	100,000	982,440
10. Development of General Education	(306,300)	(382,100)	(387,000)	(409,400)	(416,800)	(432,200)	(405,500)	(385,440)	(441,580)	(492,420)	4,058,740†
11. Development of Technical Education	63,832	74,495	92,448	104,515	107,238	129,880	118,286	147,763	137,940	139,056	1,115,453
12 Hausa Literature Bureau—Gaskiya Corporation	93,000	28,350	13,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	152,350
13 Agricultural Development	69,074	88,148	105,852	157,206	175,710	190,784	233,308	250,282	268,056	285,280	1,823,700
14 Veterinary Development	52,020	64,040	73,205	64,195	53,315	52,535	52,605	52,025	51,785	64,070	579,795
15. Forestry Development	16,500	40,670	43,462	58,870	73,825	88,296	104,850	119,109	134,280	146,274	826,136
16. Commerce and Industries (Headquarters organization only)	12,000	12,000	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)	(12,000)	120,000
17. Fisheries Development	15,400	16,940	21,940	24,480	18,070	12,000	12,000	12,000	12,000	12,000	156,830
18. Development of Peasant Textile Industries	20,045	29,130	13,850	13,690	13,970	10,000	10,000	10,000	10,000	10,000	140,685
19. Social Welfare Organizations	32,000	32,000	(40,000)	(40,000)	(40,000)	(40,000)	(40,000)	(40,000)	(40,000)	(40,000)	384,000
20. Colonial Development and Welfare Assistance to Town Planning and Village Reconstruction	20,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	40,000	332,000‡
21. Development Officers	49,525	71,575	73,250	75,800	105,350	80,350	83,050	86,350	89,350	180,900	895,500
22. Statistical Branch	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	100,000§
23. Building Programme for Development	212,800	324,500	412,000	635,500	1,041,500	1,271,500	1,272,500	1,283,000	1,276,000	1,305,000	9,034,300
24. Sleeping Sickness Service	28,070	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	469,070‖
25. Outstanding from *old* Colonial Development and Welfare Schemes not yet completed	22,100	3,000	3,000	—	—	—	—	—	—	—	28,100
26. Veterinary Training School	11,950	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	101,950¶
27. Local Development Schemes	250,000	250,000	250,000	250,000	250,000	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	2,000,000
28. Loan charges (interest and sinking fund)	70,769	150,424	212,267	268,241	335,365	419,649	492,976	563,417	634,539	711,336	3,858,983
Total £	3,245,592	4,126,010	4,408,320	4,494,565	5,171,912	5,979,873	6,001,253	6,316,360	6,575,155	7,008,209	53,327,249

Note.—The amounts shown in parenthesis are very tentative and are not, in all cases, the results of any close calculations.

* Exclusive of maintenance and pumping sand.

† Exclusive of buildings.

‡ Other expenditure under Local Development.

§ Exclusive of cost of Census in 1951.

‖ Continuation of scheme formerly assisted under Colonial Development and Welfare Act.

¶ Colonial Development and Welfare grant ends in 1946-47—future finance uncertain.

ESTIMATED ASSISTANCE FROM THE COLONIAL DEVELOPMENT AND WELFARE VOTE FOR THE FIRST FIVE YEARS OF THE PLAN BASED ON SCHEMES APPROVED IN PRINCIPLE BY THE SECRETARY OF STATE BUT SUBJECT TO DETAILED APPROVAL OF ANNUAL ESTIMATES

	1946-47	1947-48	1948-49	1949-50	1950-51	*Total*
	£	£	£	£	£	£
Rural Water Supplies	153,500	248,500	450,000	450,000	450,000	1,752,000
Urban Water Supplies	90,300	124,000	213,400	213,400	213,400	854,500
Road Development	206,000	375,000	360,000	360,000	360,000	1,661,000
Electricity Development	127,000	123,000	105,000	—	—	355,000
Tele-communications Development	50,000	50,000	80,000	—	—	180,000
Anti-Malaria Measures, Lagos	20,000	24,000	24,000	24,000	22,000	114,000
Medical and Health Development	102,609	156,744	215,972	281,424	363,015	1,119,764
Leprosy Control	78,530	91,420	99,280	93,215	—	362,445
Technical Educational Development	53,119	59,329	70,280	78,948	80,441	342,117
Gaskiya Corporation	90,500	25,850	11,000	—	—	127,350
Agricultural Development	61,574	77,348	91,950	141,106	157,410	529,388
Veterinary Development	52,020	64,040	73,205	64,195	53,315	306,775
Forestry Development	16,500	40,670	43,462	58,870	73,825	233,327
Textiles Development Scheme	9,185	16,530	9,190	9,190	9,310	53,405
Town Planning and Village Reconstruction	20,000	34,000	34,000	34,000	34,000	156,000
Development Officers	49,525	71,575	73,250	75,800	105,350	375,500
Building Programme for Development	116,750	132,050	191,950	315,000	450,500	1,206,250
Sleeping Sickness Service	17,000	—	—	—	—	17,000
Mission Advisers on Education	3,000	3,000	3,000	—	—	9,000
Kumba-Mamfe Road	10,100	—	—	—	—	10,100
Colliery Housing	9,000	—	—	—	—	9,000
Veterinary Training School	11,950	—	—	—	—	11,950
Total £	1,348,162	1,717,056	2,148,939	2,199,148	2,372,566	9,785,871

TEN-YEAR DEVELOPMENT PLAN FOR NIGERIA

Summary of Estimated Expenditure from Loan Funds 1946-47 to 1955-56

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Total
	£	£	£	£	£	£	£	£	£	£	£
Urban Water Supplies	*119,700	126,000	236,600	236,600	236,600	236,600	236,600	236,600	236,600	236,600	2,138,500
Electricity Development	60,400	353,800	111,000	97,000	111,800	256,400	60,300	50,700	50,800	37,000	1,189,200
Tele-communications	—	—	—	80,000	80,000	80,000	100,000	100,000	100,000	100,000	640,000
Marine Development	786,500	626,250	342,250	89,750	84,250	270,250	250,250	247,250	244,250	225,200	3,166,200
Educational—Schools and Institutions	260,000	260,000	230,000	200,000	190,000	130,000	60,000	—	—	—	1,330,000
Building Programme for Development	96,050	173,450	185,050	290,500	539,000	749,725	772,350	780,800	798,850	957,800	5,343,575
Grants to Nigeria Local Development Board	250,000	250,000	250,000	250,000	250,000	(150,000)	(150,000)	(150,000)	(150,000)	(150,000)	2,000,000
Roads (£100,000) †											
Total £	1,572,650	1,789,500	1,354,900	1,243,850	1,491,650	1,872,975	1,629,500	1,565,350	1,580,500	1,706,600	15,807,475
Cumulative Total £	1,572,650	3,362,150	4,717,050	5,960,900	7,452,550	9,325,525	10,955,025	12,520,375	14,100,875	15,807,475	

* Includes £63,000 of advance expenditure begun in 1945-46 in anticipation of the raising of the Loan and brought forward to 1946-47.

† In the schedule to the Development Loan Bill a token sum of £100,000 has been included for Roads in case unforeseen circumstances should call for additional expenditure on roads not provided for elsewhere.

TEN-YEAR DEVELOPMENT PLAN FOR NIGERIA

Estimated Expenditure from Nigerian Revenue for the First Five Years

	1946-47	1947-48	1948-49	1949-50	1950-51	Total Estimated (5 years)
	£	£	£	£	£	£
Road Development :—						
(*a*) Capital Expenditure ..	60,000	100,000	225,000	225,000	245,000	855,000
(*b*) Maintenance of new roads	6,300	22,400	51,300	85,500	121,400	286,900
Marine Development	24,368	29,534	32,744	34,274	35,804	156,724
Leprosy Control	5,000	5,000	5,000	5,000	5,000	25,000
Education Development (tentative figures)	38,400	86,800	113,300	154,500	158,200	551,200
Technical Education Development ..	10,713	15,166	22,168	25,567	26,797	100,411
Gaskiya Corporation	2,500	2,500	2,500	2,500	2,500	12,500
Agricultural Development	7,500	10,800	13,902	16,100	18,300	66,602
Commerce and Industries* (Central Organization only)	12,000	12,000	12,000	12,000	12,000	60,000
Fisheries Development	15,400	16,940	21,940	24,480	18,070	96,830
Textiles Development	10,860	12,600	4,660	4,500	4,660	37,280
Social Welfare	32,000	32,000	40,000	40,000	40,000	184,000
Statistics Branch (tentative figures) ..	10,000	10,000	10,000	10,000	10,000	50,000
Building Programme for Development	—	19,000	35,000	30,000	52,000	136,000
Sleeping Sickness Service	11,070	49,000	49,000	49,000	49,000	207,070
Veterinary Training School	—	10,000	10,000	10,000	10,000	40,000
Loan Charges at 4½ per cent	70,769	150,424	212,267	268,241	335,365	1,037,066
Total .. .. £	316,880	584,164	860,781	996,662	1,144,096	3,902,583

* This excludes the cost of subsidiary branches, cost of specialist advice, also marketing and accounting staff.

Note:—In the annual totals shown above no allowance has been made for revenue and loan repayment charges from revenue-earning schemes.

APPENDIX I

RURAL WATER SUPPLIES

The proposals in connection with water supplies have been divided into a scheme for small rural areas and a scheme for urban communities, as the two problems will have to be handled differently. Urban areas have been defined as those centres with a population in excess of 5,000 inhabitants. A separate scheme has been prepared for Urban Water Supplies, but the two schemes will be administered by the same sub-department of the Department of Public Works.

2. The present position regarding Rural Water Supplies is most unsatisfactory. In the drier districts of the north there is always an extreme water shortage. It is not unusual during more than half the year for people there to have to walk 12 miles each way in order to obtain a gallon or two of water of very inferior quality, which is almost always heavily contaminated with guinea worm and other water-borne diseases and pests. At certain times of the year the amount of water available is so small and of such bad quality that water consumption per head is seriously below the proper minimum. There are places where guinea worm infection is as high as 75 per cent of the population. The consequent loss of productive effort is enormous. The shortage of water for animals, particularly in the big cattle areas in the north, is equally serious. The provision of adequate supplies, at easy distances, must therefore be considered as the first step towards the development of the country on a proper basis.

3. The water shortage in the North is, perhaps more apparent than in the South, because in the southern districts there is a very much heavier rainfall. Nevertheless, the source of potable water in these areas is usually just as unsatisfactory, and during the dry season the quality and quantity are acutely bad.

4. There are, of course, some suitable water supplies in the country already, but they are very small in relation to the total population.

5. From the existing records of population (now estimated at something over 22,000,000) it is considered that not less than 18,000,000 of the rural population have inadequate and mostly unsatisfactory water supplies. In order to give a minimum amount of water of proper quality free from water-borne diseases and pests, it is desirable that water points of one sort or another should be provided for every 500 head of the rural population. At present approximately one point is available, on the average, to a thousand head of the population. To provide the minimum supplies, it will be necessary to have altogether 36,000 points, involving the provision of 18,000 new water points and the reconditioning and improvement of 18,000 existing ones.

6. The form of installation will vary considerably. Over a large part of the territory it will consist of open wells, tube wells, or shallow boreholes up to 150 or 250 ft. deep. In some cases small impounding dams will be required, while in others deep boreholes will be needed. Generally, however, the latter will be set up in association with the larger centres of population dealt with under the urban supplies.

7. The programme will take until 1957-58 to complete, and it is estimated to cost £5,000,000. The proposals are of such fundamental importance to the whole development of the territory that

the Secretary of State has agreed to provide a free grant for their installation covering the first five years work, together with some preliminary work in 1944-46. It is hoped that a further grant will be forthcoming for the second five years.

8. In the preliminary stages the survey and initial work will be carried out by the Director of Geological Surveys and by staff recruited to work with him. The officer in question has special experience of small water supplies in several parts of Africa, and it is therefore desirable that he should have the control of the starting up of this work until such time as a Water Section of the Public Works Department has been built up. The ultimate aim, however, is for a water sub-department to be established under a Deputy Director of Public Works (Water) which would be responsible not only for the development of rural supplies, but also for the installation of the bigger schemes connected with the urban areas. The procedure intended is to establish in each Province as work is undertaken a staff of water engineers and subordinates to carry out the water surveys, prepare estimates for each place, and then attend to the actual installations. Provincial and district development committees will be asked to prepare lists of priorities for the installation of water supplies. These, after consideration by the authorities concerned, will be surveyed and estimates prepared for final consideration by the central development organization. This will ensure orderly division of the services which can be installed in any given period.

9. The principal expenditure will be for staff and labour, and this will involve, in the case of Rural Water Supplies, the employment of 27 Engineers and 90 other technical staff. The consolidated cost of this staff at its peak will be about £117,000 per annum, and it is estimated on the basis of experience of the Public Works Department that at that stage they will be able to carry out work involving an expenditure of about £240,000 per annum. As it will only be possible to recruit staff as and when they become available and in accordance with the amount of equipment that can be obtained under present conditions, it is not expected that this full rate of progress will be reached until the year 1948-49.

10. The scheme covers the provision of bare minimum supplies only. It is obvious that, as the people get used to using water, their demands will rapidly increase. Any such further developments should be financed by the people themselves, since, once the initial supplies have been provided, the productivity of the people concerned should increase sufficiently to enable the cost of their further requirements to be met from local funds.

11. The estimated rate of expenditure is shown in Table I, and this also shows the number of water supplies expected to be dealt with under the scheme year by year. Over the period of the present plan, it is expected that 32,400 supplies will be dealt with, half new and half reconditioned, and affecting a population of 16,200,000. There will be 3,600 supplies still to be dealt with when the 10-year planning period is completed.

APPENDIX II

URBAN WATER SUPPLIES

It has been explained in Appendix I that urban areas, for the purposes of water supplies in connection with these development schemes, have been defined as those centres of population in excess of 5,000 inhabitants within an area of $2\frac{1}{2}$ miles radius, where a special scheme is required involving total or partial treatment of piped water supplies. It is estimated that there are some 180 towns or thickly populated areas throughout Nigeria which will qualify within the terms of this definition and these affect a population of about two million people who will require either new pipe supplies or extensions and improvements to existing supplies; included in this number are thirty-two towns already provided with supplies and serving roughly a million of the population—most of these, however, will require extensions and improvements. The larger towns will require supplies with full treatment but in other areas more simple methods will suffice.

2. It is estimated that; under present conditions, the capital cost will be between £2 to £3 per head of population for the installation of these new supplies, based upon previous experience and current costs of materials. The total cost of completing this scheme is, therefore, estimated to be approximately £5,000,000.

3. The scheme for each urban area will require special investigations and preparation of detailed proposals. It is not, therefore, possible at this stage to say exactly what type of installation will be put in at each urban area nor is it possible to provide a detailed programme of the work that will be accomplished year by year.

4. As has been stated in Appendix I, it is proposed to reinforce the Public Works Department with special staff for a Water Supplies Branch. They will work in collaboration with special officers who will be added to the staff of the Geological Survey Department to assist in connection with supplies involving wells and deep drilling. It is also proposed to employ consulting specialists who will carry out surveys and preparation of special schemes. In some instances it is possible that works will be placed out to contract The type of installation will, of course, differ according to the circumstances in each case and it is to be assumed that schemes will vary between the extremes of the damming of rivers for producing reservoirs on the one hand and deep wells, where geological investigations show that adequate supplies are to be found under artesian or sub-artesian conditions on the other.

5. Urban Water Supplies will ultimately be the responsibility of the Native Authorities concerned, although in some instances other authorities may be more appropriate to accept the responsibility. It is obvious, however, that in many instances the authorities concerned will not be in a position to accept full financial responsibility in the earlier stages and, therefore, an application has been made to the Secretary of State for some assistance towards the capital cost of the installation of these Urban Water Supplies. Agreement has been reached in respect of the first five years of the scheme under which provision will be made in the form of a free grant of the necessary central staff and centrally owned equipment. A free grant of 30 per cent of the capital cost of such installations will also be provided from the Colonial Development and Welfare Vote. While this form of assistance has only been promised for five years it is confidently expected that further assist-

ance will be forthcoming after the work of the first few years can be seen and reviewed.

6. The remainder of the cost of the installation of these schemes will be financed from monies to be borrowed by the Nigerian Government under the Development Loan Ordinance. Loans will be made by the Nigerian Government out of these monies to the Native or other authority concerned.

7. Such loans will be made on a twenty year basis and will probably carry a rate of interest of 3½ per cent. The Native or other authorities concerned will be called upon to make repayments of both capital and interest over a period of twenty years in the form of equated annuities, which will probably be calculated at £7 per annum per £100 of the net cost of installation, i.e., the actual cost less the 30 per cent free grant provided from the Colonial Development and Welfare Vote. In special cases consideration may be given to the granting of a short period of grace in regard to repayments but, where this happens, the interest charges for this period of grace will be added to the net capital cost and the annual payments under the equated annuity system correspondingly increased over the remainder of the repayment period.

8. It has already been explained that at this stage it will not be possible to state specifically the towns or urban areas in which supplies will be installed or the programme of priorities. The subject, however, is under consideration by Provincial and Area Development Committees and the final priority programme will be prepared by the Central Development Board. In the earlier years, however, the programme must, to a certain extent, be influenced by the availability of staff for the preparation of schemes and in consequence it will not always be possible to base the programme solely upon urgency of requirements.

9. The full programme envisaged for Urban Water Supplies will not be completed in the ten-year period and in all probability it will have to continue until 1958 to ensure that all of the supplies contemplated are provided. The summary, therefore, shown in Table II covers not only the £4,060,000 of expenditure over the ten-year period of the Development Plan, but estimated subsequent expenditure, in order to give a proper picture of the expenditure involved in completing this scheme. This expenditure includes £63,000 of commitments authorized and made in 1945-46 in anticipation of the long term scheme.

APPENDIX III

ROAD DEVELOPMENT SCHEME
(Revised November 1945)

By H. E. WALKER, C.B.E., *Director of Public Works*

GENERAL

Under the policy accepted by Government for the development of the road system of Nigeria as a co-ordinated whole the various routes have been classified as (*i*) Trunk Roads A (*ii*) Trunk Roads B (*iii*) Local Feeder Roads (unclassified roads).

The general system and classification is described in detail in a memorandum dated 21st January, 1937, which elaborated a memorandum dated 24th November, 1926, the recommendations of which have been accepted as the basis for general Trunk Road policy. For present purposes the following brief description will suffice.

2. Trunk Roads A form the skeleton Trunk Road system on which the remainder of the road system of the country is built up. This framework or skeleton, consists of two main South to North roads:—

(*i*) Lagos-Ibadan-Ilorin-Kano.

(*ii*) Port Harcourt-Enugu-Makurdi-Jos-Potiskum-N'guru,

and four main lateral roads from West to East:—

(*iii*) Shaki-Oyo-Akure-Benin-Enugu-Bamenda.

(*iv*) Kishi-Ilorin-Lokoja-Katsina Ala.

(*v*) Yelwa-Bida-Abuja-Wamba-Jos-Biu-Yola.

(*vi*) Sokoto-Funtua-Kano-Potiskum-Maiduguri.

3. Trunk Roads B are defined as "Roads connecting provincial or divisional capitals and other large towns with the skeleton Trunk Road system or with one another or with a port or convenient station on the Railway."

4. Local Feeder Roads or Unclassified Roads form the network of roads serving the areas between the Trunk Road system. (Under the Development Scheme up to fifty per cent of the cost of new feeder roads or improvements will be paid from the Colonial Development and Welfare Vote, the remainder and the maintenance will be the responsibility of the Native Administrations.)

5. It is important to note that the above classification refers only to the relative importance of a route in the general co-ordinated system and not to the standard of construction. Standards of construction are classified as 1st, 2nd and 3rd class roads. All roads are constructed to 3rd class specification in the first instance and improved to 2nd and 1st class specification as the traffic develops and a higher standard is necessary to cope with the increased weight and volume. There are at present in Nigeria very few roads on which the volume of traffic justifies the expense of improvement up to 1st class specification.

6. The classification into Trunk Roads A and B is also used in the allocation of financial responsibility as between Government and the Local Authorities. Expenditure on both construction and maintenance of Trunk Roads A, is borne wholly by Government. (Under the new Development Scheme the construction and improvement costs will be borne from the Colonial Development and Welfare Vote, but maintenance will continue to be paid for by the Central Government.)

In the case of Trunk Roads B, expenditure or maintenance is shared between Government and the Local Authorities. Wherever possible the work is carried out by the Local Authorities and reimbursement is made by Government against a certified statement of expenditure at the end of the financial year.

For this purpose Trunk Roads B are sub-divided into:—

B1: Trunk Roads B, not otherwise classified. Government grant to be twenty-five per cent of annual cost of maintenance.

B2: Trunk Roads B, upon which through traffic, *i.e.*, motor traffic not originating or terminating within the boundaries of the local administration exceeds local traffic. Government grant to be fifty per cent of annual cost of maintenance.

B3: Trunk Roads B passing through sparsely populated areas when cost of maintenance would be unduly burdensome. Government grant up to seventy-five per cent of the annual cost of maintenance.

There are a few cases of roads of both B and unclassified which were constructed and maintained by Government prior to 1937, where Government continues to pay the whole cost of maintenance. The cost of maintenance and construction of the local feeder roads is in principle borne wholly by the Local Authorities. (Under the Development Scheme, construction for Trunk Roads B will be paid for from the Colonial Development and Welfare Vote, but maintenance will continue as above.)

7. The present position as regards this road system is as follows:—

Trunk Roads 'A'.—The mileage of the complete skeleton system is 4,175 miles, of which the greater part has been constructed but there are important gaps, *i.e.*,

(*i*) Birnin-Kudu-Misau section of lateral road Sokoto-Maiduguri, with a branch to Azare; (new construction 106 miles).

(*ii*) Bansara-Ikom-Mamfe section of lateral road Shaki-Benin-Enugu-Bamenda (new construction 90 miles).

Certain additional links have also been found to be extremely desirable. Of these the more important are:—

(*i*) Lagos-Ijebu Ode-Benin.

(*ii*) Mokwa-Kontagora.

(*iii*) Calabar-Mamfe.

Some 1,450 miles of existing road require improvement to meet the demands of traffic and some 760 miles will require a bituminous surface. These points are also dealt with later under proposals for extension and improvement.

Trunk Roads 'B'.—A total of 3,382 miles have been constructed to varying standards. It is estimated that 820 miles require considerable improvement at an estimated cost of £218,000 and 240 miles require bituminous surfacing.

Local Feeder Roads.—At present 17,100 miles have been constructed, some as all season roads but mostly as dry season tracks; much of this mileage requires improvement.

8. The need for improvement to existing roads and for new roads was discussed at length in a memorandum dated 17th December, 1938. Briefly, the points then made and which still hold good were the need for improving existing roads to meet the increasing volume of traffic and weight and speed of vehicles and

for additional roads to promote the further development of the country by opening it up to motor transport. The question of an adequate allowance for mileage of roads in Nigeria was discussed, and it appeared that the following figures would be reasonable for various areas:—

Population density per sq. mile	*Miles of road per sq. mile*
Over 200	0.5
150-200	0.4
100-150	0.3
50-100	0.2
10- 50	0.1

A schedule is attached showing the position for each Province separately. Allowances were made for areas in which water and animal transport were readily available and areas required for Forest Reserve were also taken into account. This schedule is in a revised form with adjustments for roads opened up since 1938. The total requirement arrived at by this method is approximately 40,000 miles of road against an existing mileage at the present date of some 24,000 miles leaving a balance of 16,000 miles required for new roads.

9. To attain the objective of extending and improving the present road system to the extent now considered necessary, the following programme is proposed:—

(*i*) Complete gaps in skeleton Trunk Roads 'A' System and provide the additions to the skeleton system which are now found to be necessary as a result of development during the last few years.

(*ii*) Improve and strengthen existing Trunk Roads 'A' to meet demands of increasing traffic, work to include bituminous surfacing where necessary.

(*iii*) Construct the additional Trunk Roads 'B' found to be necessary as a result of development during the last few years.

(*iv*) Improve and strengthen existing Trunk Roads 'B' to meet demands of increasing traffic, providing bituminous surfacing where necessary.

(*v*) Grants on a contributory basis to Local Authorities for the construction of additional local feeder roads and improvements to existing local roads.

10. The main details of this programme are as follows:—

I.—Gaps in Trunk 'A' system and additional 'A' Roads

(*i*) Birnin-Kudu-Misau section of main lateral Sokoto-Kano-Maiduguri with branch to Azare (106 miles).

(*ii*) Mokwa-Kontagora bye-pass on main South-North road Lagos-Kano to avoid the Kaduna River crossing between Jebba and Bida and also shorten the route to Sokoto from the South (89 miles).

(*iii*) Bansara-Ikom-Mamfe section of lateral road Oyo-Benin-Bamenda (90 miles).

(*iv*) Calabar-Mamfe to connect Mamfe-Bamenda area with the port of Calabar (104 miles).

(*v*) Katsina Ala-Wukari-Jalingo-Yola extension to lateral road Ilorin-Lokoja-Katsina Ala (310 miles).

(*vi*) Lagos Benin new direct route; new construction of Lagos Ikorodu and Ijebu Ode-Benin sections (80 miles) excluding certain lengths of existing unclassified dry season road.

(*vii*) Shagamu-Ibadan link road to connect Ibadan with (*vi* above and so provide a shorter route to Lagos.

(*viii*) Southern outlet from Kaduna. At present there is n direct connection between Kaduna and the South. A new road is proposed either to connect with Kwongom on the main South to North road or a direct road t Minna.

(*ix*) It will also be desirable to reclassify the following route as Trunk Roads 'A' in view of the altere importance:—

(*a*) Otta-Idiroko section of the Lagos-Accra roa Considerable improvement is necessary.

(*b*) Kano Daura road as being the main route to Zinde and North Africa.

(*c*) Maiduguri-Dikwa Ngala as a continuation of th Kano-Maiduguri route to Fort Lamy an Khartoum.

II.—Improvements and Strengthening existing Trunk Roads 'A'

The following routes require considerable improvement mostl to drainage and strengthening or replacement of weak bridges Unexpected development of traffic may necessitate adjustment o this list and some elasticity is desirable in the actual carrying ou of the programme, but this will not materially affect the amoun of work or cost as additions will in all probability be balanced b deletions.

(*i*) Jebba-Bida-Abuja-Keffi-Wamba-Fadan-Karshi. Most o this route has gradually been improved from a dr season track. There are many light timber bridge requiring replacement and drainage is in genera inadequate for proper maintenance (363 miles).

(*ii*) Kontagora-Yelwa similar condition to (*i*) (70 miles).

(*iii*) Tegina-Kusheriki-Birnin Gwari section of main Sout to North Road Lagos-Kano; similar condition to (*i*) (6 miles).

(*iv*) N'Guru-Gashuwa-Damaturu section of main South North road Port Harcourt-N'Guru. This is a dr season road but the major bridges have bee constructed. Minor bridges are very few. Culvert and very considerable improvements to carriage-wa are required. This road forms the shortest rout from Maiduguri to the Railway (150 miles).

(*v*) Hinna-Biu section of Jebba-Jos-Yola lateral. It exist at present as a very light dry season track. Ne construction practically throughout is required Apart from its importance in the Trunk Road syste it has considerable local value in providing access t the River Port of Hinna (55 miles).

(*vi*) Bauchi-Gombe section of the Jebba-Jos-Yola latera road. Improvements to the drainage and surfacing of the carriage-way are required (97 miles).

(*vii*) Biu-Yola section of Jebba-Jos-Yola lateral. Condition are similar to those described for (*i*) above (134 miles)

(*viii*) Makurdi-Akwanga section of South-North road Po Harcourt-N'Guru. Conditions similar to (*i*) above (10 miles).

(*ix*) Oturkpo-N'Sukka section of South-North road Po Harcourt-N'Guru. Conditions similar to (*i*) above (6 miles).

(*x*) Lokoja-Ankpa section of Ilorin-Lokoja-Katsina Ala lateral road. New construction is required over about half of the route which exists as a dry season track but requires realignment. On the remainder improvements to drainage are required (90 miles).

(*xi*) Ikole-Kabba section of Ilorin-Lokoja lateral road. A number of light timber bridges require replacement, and considerable improvement to drainage is necessary (28 miles).

(*xii*) Bituminous surfacing of existing Trunk Roads ' A '. It is estimated that 760 miles of Trunk Roads ' A ' will require bituminous surfacing during the next ten years to cope with increases in traffic. The principal sections involved will be extension of tarred surface on the Ibadan-Enugu lateral, from Ife to Benin and Asaba, Owerri-Aba section of South to North road from Port Harcourt. Extension of bituminous surfacing on Lagos-Kano road from Oyo-Ilorin, and Gusau-Sokoto and Jos-Bauchi roads.

III.—Additional Trunk Roads ' B '

As a result of developments during the last few years, the following routes are found to be necessary.

(*i*) Kontagora-Bukwium-Sokoto, to provide a shorter outlet to the South from Sokoto and the Zamfara valley. The route exists for the most part as a dry season track but an all season road is really necessary for proper development of the area (215 miles).

(*ii*) Kaduna-Kachia-Abuja. At present there is no all-season road connection through Southern Zaria and the conversion of the dry season route to all season standards and its re-classification as a Trunk Road ' B ' is the best way of attaining this objective (180 miles).

(*iii*) Road connection with the Mambilla Plateau in the South of Adamawa Province is very necessary as at present it is practically inaccessible. The exact route has not yet been determined, but a reconnaissance is in progress; the probable length of road required is (100 miles).

(*iv*) Maiduguri-Dumboa-Biu, the opening of this route is required to connect Maiduguri with the river port at Hinna *via* the Biu-Hinna road. An all-season road is necessary as the river ports are only open during the rains (130 miles).

(*v*) Kano-Zaria direct road. The present route from Kano to Zaria *via* Yashi and Funtua is very circuitous and in addition to providing direct road connection between the large population centres of Zaria and Kano, road access to the numerous towns on the route is very necessary. The lack of this direct road has been felt very keenly during the last few years, and at one time the Army started construction (93 miles).

(*vi*) Kiama-Yelwa Road with bridge over the Niger to provide a more direct route between Sokoto Province, Ilorin and the South.

IV.—Improvements to Trunk Roads ' B '

The following are the main routes requiring improvement to bring them up to the standard for 3rd class roads:—

(*i*) Auchi-Agenebode. Improvements to drainage surfacing and bridging are necessary (33 miles).

(*ii*) Kabba-Lokoja. Improvements to bridges and culverts are the most important requirements (55 miles).

(*iii*) Keffi-Loko. This is only a dry season track and conversion to all-season standards is desirable (71 miles).

(*iv*) Ropp-Wase. General improvement to drainage and surfacing and some realignment is required (90 miles).

(*v*) Kontagora-Rijau dry season track which requires conversion to all-season standards as part of the road from Sokoto-Jebba, *via* Bukwium (52 miles).

(*vi*) Bungudu-Jega. At present a dry season track along the Zamfara valley; complete conversion to all-season standards is most desirable (166 miles).

(*vii*) Gusau-Jibia. Considerable work on bridging and culverts has already been completed on this route but much more remains to bring it up to 3rd class specification (101 miles).

(*viii*) Damaturu-Biu. Similar conditions to (*vii*) (85 miles).

(*ix*) Zungeru-Minna-Abuja. Similar conditions to (*vii*) (130 miles).

(*x*) *Bituminous surfacing Trunk Roads B.* It is estimated that on some 240 miles the traffic developments during the next few years will necessitate the provision of a bituminous surface. The principal routes affected are Ede-Ife; Oshogbo-Ilesha; Ondo-Akure; Benin-Sapele; Onitsha-Owerri; Katsina-Yashi.

V.—Local Feeder Roads

It is calculated approximately 16,000 miles of additional feeder roads are required in addition to improvements to existing roads. The approximate mileage required in each Province has been calculated and is shown on the attached table. It will be necessary for programmes for these roads to be drawn up by the Provincial Committees.

It is considered reasonable that grants should be made on a general basis of 50 per cent of cost. In some cases it may be necessary for the Development Vote to contribute more and in others less, but 50 per cent is considered a fair average. Costs per mile will vary enormously according to whether all season or dry season standards are required, and the type of country traversed.

SCHEDULE

ESTIMATED REQUIREMENTS OF ROADS IN NIGERIA

Province	*Area Sq. miles*		*Population*	*Population Density per sq. mile*	*Mileage existing Roads*	*Assumed Road Factor*		*Total ultimate requirements —Miles*
			SOUTHERN PROVINCES					
Abeokuta		4,266	—	—	—	—		—
	deduct 12% for Forests	509	—	—	—	—		—
		3,657	434,526	118	504		0.3	1,097
Benin		8,589	—	—	—	—		—
	deduct 64%	5,497	—	—	—	—		—
		3,092	459,906	148	1,575		0.35	1,082
Calabar		6,331	—	—	—		0.4	—
	deduct 25%	1,580	—	—	—	dd. for water transport 25%	0.1	
		4,751	900,285	189	1,359		0.3	1,425
Cameroons		16,581	—	—	—	—		—
	deduct 30%	4,974	—	—	—	—		—
		11,607	382,501	33	551		0.1	1,160
Ijebu		2,456	—	—	—	—		—
	deduct 25%	614	—	—	—	—		—
		1,842	305,898	169	368		0.4	737
Ogoja		7,624	—	—	—		0.3	—
	deduct 20%	1,524	—	—	—	dd. water 15%	0.05	—
		6,100	726,233	119	706		0.25	1,520
Ondo		8,211	—	—	—	—		—
	deduct 30%	2,463	—	—	—	—		—
		5,748	462,560	80	896		0.2	1,149
Onitsha		4,937	—	—	—	—		—
	deduct 9%	444	—	—	—	—		—
		4,493	1,096,323	244	1,164		0.5	2,246
Owerri		9,970	—	—	—		0.4	—
	deduct 9%	897	—	—	—	dd. for water transport 25%	0.1	—
		9,073	1,616,672	178	2,236		0.3	2,721
Oyo		14,216	—	—	—	—		—
	deduct 20%	2,843	—	—	—	—		—
		11,373	1,339,606	118	1,185		0.3	3,411
Warri		6,334	—	—	—		0.2	—
	deduct 5%	317	—	—	—	dd. for water 5%	0.1	—
		6,017	414,505	69	455		0.1	602
Total, Southern Provinces					10,999			17,150

SCHEDULE—*continued*

ESTIMATED REQUIREMENTS OF ROADS IN NIGERIA

Province	*Area Sq. miles*		*Population*	*Population Density per sq. mile*	*Mileage existing Roads*	*Assumed Road Factor*		*Total ultimate requirements —Miles*
			NORTHERN PROVINCES					
Adamawa		33,765	—	—	—		0.1	—
	deduct for Forest 25%	8,220	—	—	—	dd. for animals 20%	0.02	—
		25,545	657,976	27	687		0.08	2,043
Bauchi		25,977	—	—	—		0.15	—
	deduct 20%	5,195	—	—	—	dd. animals 33%	0.05	—
		20,782	984,757	47	1,458		0.10	2,078
Benue		29,318	—	—	—	—		—
	deduct 20%	5,863	—	—	—	—		—
		23,455	989,525	42	1,307		0.01	2,345
Bornu		45,900	—	—	—		0.10	—
	deduct 20%	9,180	—	—	—	dd. animals 50%	0.05	—
		36,720	1,044,632	28	1,546		0.05	1,836
Ilorin		17,719	—	—	—		0.1	—
	deduct 20%	3,744	—	—	—	dd. animals 20%	0.02	—
		13,975	453,347	32	475		0.08	1,118
Kabba		10,953	—	—	—	—		—
	deduct 25%	2,740	—	—	—	—		—
		8,213	463,531	56	595		0.2	1,643
Kano		16,626	—	—	—		0.3	—
	deduct 6%	1,320	—	—	—	dd. animals 50%	0.15	—
		15,306	2,374,253	154	1,570		0.15	2,285
Katsina		9,466	—	—	—		0.3	—
	deduct 10%	946	—	—	—	dd. animals 50%	0.15	—
		8,520	1,039,109	122	979		0.15	1,278
Niger		25,178	—	—	—		0.1	—
	deduct 30%	7,553	—	—	—	dd. 20%	0.02	—
		17,625	461,208	26	1,365		0.08	1,410
Plateau		10,423	—	—	—		0.2	—
	deduct 8%	833	—	—	—	dd. 20%	0.04	—
		9,590	540,836	56	841		0.16	1,534
Sokoto		39,965	—	—	—		0.2	—
	deduct 15%	5,995	—	—	—	dd. for animals 50%	0.1	—
		33,970	1,869,160	55	1,985		0.1	3,397
Zaria		16,488	—	—	—		0.1	—
	deduct 20%	3,299	—	—	—	dd. for animals 20%	0.02	—
		13,189	428,142	32	814		0.08	1,055
	Totals : Northern Provinces				13,622	—		22,022
	Totals : Southern Provinces				10,999	—		17,150
					24,621			39,172

APPENDIX IV

* ELECTRICAL DEVELOPMENT

Summary of proposals prepared by J. O. HALL, A.I.E.E., *Electrical Engineer-in-Chief.*

During the last twenty years the development of Electricity undertakings now in operation has demonstrated the advantages of electricity supplies and given rise to a growing desire for installation of supplies with all the attendant amenities, in a number of the larger towns. The advantages in the case of hospitals, schools and houses are too obvious to need description; in fact electric light and power is becoming an essential rather than an amenity. For African housing of the better type found in large towns, the substitution of electric light for the existing methods of indoor lighting which consists of very inefficient paraffin lamps, poor quality candles and strips of cloth inserted in pots containing vegetable oil, offers considerable attractions and is bound to be conducive to the general well being of the household. In units of illumination electricity is generally cheaper than kerosene.

2. There are at present fifteen electricity supply undertakings operating in Nigeria, viz:—

(*a*) Government owned and operated (9).
Lagos, Port Harcourt, Kaduna, Enugu, Yola, Zaria, Calabar, Warri. At Jos current is taken in bulk from the Nigerian Electricity Supply Corporation: construction work is in hand to give a similar supply to Vom.

(*b*) Native Administration owned, operated by the Public Works Electricity branch (5).
Abeokuta, Kano, Ibadan, where full supplies are operated, and Katsina and Maiduguri, where only partial supplies are available.

(*c*) Nigerian Electricity Corporation. Hydro-Electric scheme supplying the minesfield area round Jos and Bukuru.

In addition to (*a*) and (*b*) above, the Electricity Branch at present operates a number of generating stations supplying lighting and power to the Cameroons Plantations, now in the hands of the Custodian of Enemy Property.

3. A number of the Government and Native Administration undertakings mentioned above already require extension and most will require additional plant during the next ten years.

As regards development of new supplies, it is estimated that some 40 of the larger towns are now or will be ready during the next 10 years for electrical development. The more important of these 40 towns are:—in the Northern Provinces, Sokoto, Minna, Bauchi, Makurdi, Gusau, Bida, N'guru and 5 others under consideration; in the Western Provinces it is estimated that there are 16 such towns, the more important being, Ijebu-Ode, Benin, Oshogbo, Ede, Iwo, Oyo, Akure Ondo, Ilesha, Ife. In the Eastern Provinces, the more important towns are Aba, Onitsha, Owerri, Ikot Ekpene, and 3 others under consideration. Five towns in the Colony area will require supplies, one of which can be supplied by extension from Lagos.

4. The estimated capital cost of the extensions to existing undertakings and new undertakings mentioned above can only be

* Since these proposals were prepared, it has been decided that the control of all the existing Government owned Electricity Undertakings, as well as the new installations and extensions to be provided under the Development Plan, shall be separated from the Department of Public Works by stages and vested in a Government owned Electricity Corporation.

roughly estimated at present, but based on the experience gained with existing undertakings, the cost is likely to be :—

	£
Northern Provinces	320,000
Western Provinces	260,000
Eastern Provinces	110,000
Colony	37,000
Extensions to existing undertakings	800,000
Cameroons	253,000
	£1,690,000
Supervision, Investigation and Contingencies	110,000
	£1,800,000

It is anticipated that work could proceed simultaneously on a number of schemes spread over the Northern, Western and Eastern Provinces, and when fully organised would be at a rate of £200,000 per annum. The time required to build up the organisation to this rate of expenditure is dependent on the recruitment of staff and delivery of plant and materials. The programme would thus take from 11 to 14 years to complete.

5. *Staff*.—The general supervision of the work would be carried out by the Electrical Engineer-in-Chief and his headquarters officers, but it would be necessary to augment the numerical strength prior to the commencement of works as follows:—

1 Senior Electrical Engineer.
1 Electrical Engineer, Grade I.
1 Mechanical Engineer, Grade I.
1 Electrical Engineer, Grade II.
1 Mechanical Engineer, Grade II.
1 Assistant Accountant.

Provision for this staff is made under the item for Supervision and Investigations. At the end of the programme it would be necessary to retain the staff on the permanent establishment for maintenance. The additional staff required for the construction of the work and whose cost will constitute a charge against the capital expenditure on each undertaking, is estimated as follows:—

3 Mechanical Engineers plus 1 relief ...	4
2 Assistant Accountants	2
3 Foremen Linesmen to be provided under the contract for distribution materials plus 1 relief	4
1 Cable Jointer	1
Total ...	11

6. For the operation of the undertakings additional technical staff would be required as follows, and in the order given:—

1st year of construction	4 Electric/Mechanical Engineers: 2 of whom would be engaged in training African power station staff (Engine drivers).
	1 Assistant Electrical Engineer.
	2 Assistant Accountants for touring and inspection of accounts on works.

nd year of construction	1 Electric/Mechanical Engineer.
	4 Assistant Electrical Engineers.
rd year of construction	2 Electric/Mechanical Engineers.
	4 Assistant Electrical Engineers.
	1 Assistant Accountant.
th year of construction	nil.
th year of construction	2 Electric Engineers.
	2 Assistant Electric Engineers.
Total ...	23

These numbers will have to be added to the present establishment of Electricity Branch. The additional expenditure will eventually be covered by revenue from the undertakings, but until that time the amount allowed under the item for supervision will cover the cost. The sufficiency or otherwise of this operating staff will depend on the successful training of the African station engineers to take charge of the smaller undertakings. Under optimum conditions it might be possible to reduce considerably the number of the European Assistant Electrical Engineers.

7. The estimated number of African Station Engineers required is 24; of these approximately 12 will be required for the Northern Provinces and 12 for the South. As facilities for the necessary training are non-existent in West Africa, it is proposed that arrangements should be made for the recruitment of suitable youths in Nigeria and their entry as apprentices in selected engineering works in the United Kingdom, where they would receive practical training and be required to study at associated Technical Colleges. The period of training anticipated is 5 years, but if the best type of youth is selected it may be possible to reduce this to 4 years. It is estimated that the cost of training will be approximately £300 per annum for each apprentice, on the basis of Gold Coast experience where the trainee is paid £16 per month by the engineering firm, and receives a consolidated allowance of £8 per month from the Gold Coast Government, plus £10 per month paid to his wife on the Gold Coast. Thus the cost to Government is £18 per month plus passages, etc. It will be necessary to recruit 12 apprentices in the first year, and a further 12 in the third year.

8. In addition to Station Engineers it will be necessary to arrange for training Engine Drivers, and it is estimated that 50 will be required in the Northern Provinces and 90 in the South, a total of 140. It is proposed to arrange for training in Nigeria under the two Mechanical Engineers as noted in the staff required for operation. It should be possible to provide sufficient training for an engine driver in twelve months or less. Training would be on the works during erection and subsequent operation. Recruitment would be at the rate of 5 a year for the North and 10 a year for the South.

9. As regards plant, arrangements are being made for investigation into the possibilities of small hydro-electric installations, but in the Northern Provinces and part of the South the prospects of such power being available are not hopeful, and it will be necessary to consider the source and nature of the fuel supply for projected schemes since on this depends to a great extent the economic success of the undertakings as a whole. The cost of Nigerian coal and imported fuel oil is such that it precludes generation at sufficiently low cost to encourage industrial and domestic sales development by the undertakings. For the larger number of undertakings in the Northern Provinces, however, it will be necessary to

consider the comparative economic values of Nigerian coal, fuel oil, local coal tar oil, and ground nut oil. In the Southern Provinces and Cameroons where there is in parts more prospect of hydro-electric power, this will undoubtedly be used. The remainder will be dependent on Coal, Fuel oil, Wood, and Coal Tar oil. The capital expenditure estimate, therefore, provides for the establishment of wood fuel plantations in the Western Provinces to serve the larger undertakings which would employ gas producer plant and it is hoped that from the by-products obtained a certain percentage of tar oil can be distilled off for use at the smaller undertakings employing oil engine prime movers. It is also proposed to instal a plant at Enugu, generating coal gas, to be fired under the power station boilers and providing coal tar oil for use at the smaller undertakings in the Eastern Provinces. It should also be possible to recover other by-products in the form of Ammonia, Phenol, pitch, etc. Generating plant will be standardised as far as possible for the smaller new undertakings using 25, 50, and 100 K.W. sets.

APPENDIX V

TELECOMMUNICATIONS DEVELOPMENT

Summary of proposals prepared by J. A. GUNDRY, A.M.I.E.E., *Postmaster-General*

1. *General.*—Except for the routes Lagos-Oshogbo, Zungeru-Kano and Port Harcourt-Enugu (all reconstructed fairly recently), and Enugu-Kaduna, (completed in 1927), the existing Telegraph and Telephone routes consist of light poles, having been built originally to carry two or three telegraph wires. Only minor strengthening of some routes has been undertaken to enable them to carry additional wires for trunk telephones.

2. *Telegraphs.*—Most of the telegraph circuits on the main routes are superimposed on telephone channels and this method in some form or another will continue, so that it is unlikely that any new telegraph lines will be built. Where telegraphy only is required, a wireless station will provide the facilities most economically, unless an existing route runs close by. In any case new land-line telegraphs will not be expensive and need not be specially considered. An increase in the number of telegraph channels on main routes and the introduction of teleprinters is referred to in paragraph 10 below.

3. *Telephone Trunk Mileage.*—The existing telephone trunk system is only a skeleton. On the main routes Oshogbo-Kano, Oshogbo-Ilesha and Onitsha-Enugu, there are two pairs of wires and on the routes Lagos-Oshogbo, Port Harcourt-Enugu, Aba-Calabar, three or four; all others are single pairs. It may not be out of place to compare the total trunk telephone mileage in Nigeria (7,248 in 1943) with that of say Scotland, which rose from 74,370 in 1925 to 296,673 in 1938. (The corresponding figures for the United Kingdom are 769,621 and 3,763,064). It is not suggested that we should attempt to give Nigeria a trunk telephone system even approaching that of the United Kingdom in 1925, but when the distances involved in Nigeria are considered it will be realised that an efficient trunk telephone system will require a very large increase in effective wire mileage.

4. *Repeaters, Zone and Group Centres.*—There is a limit to the length of wire (according to gauge of wire used) beyond which speech becomes impossible without " repeaters ", (speech amplifiers), and according to various factors which have to be taken into account a point is reached where it is cheaper to use repeaters than to increase the gauge of wire. To use these economically it is necessary to divide the area to be served into Zones, sub-divided into Groups; provide " Zero-loss " trunks between Zone Centres (which can best be obtained by use of " Carrier ") and limit the loss between Zone and Group Centres and minor exchanges. Speech from any exchange in one Group to any exchange in another Group, whether in the same or another Zone, thus becomes possible. In order that Nigeria may be connected to the International Telephone System it will be necessary to guarantee a certain " speech-level " for all outgoing calls and this can most effectively be done at one of the Zone Centres.

5. *Carrier.*—In addition to the economies effected in the cost of overhead plant by repeaters, economies may also be effected by the use of " carrier " equipment which provides three additional

telephone speech channels on the same pair of wires. Proposals have already been made to instal this apparatus on the Lagos-Oshogbo, Oshogbo-Kaduna and Oshogbo-Enugu routes. Eighteen additional telegraph channels can also be provided at little additional cost by sacrificing one of the extra telephone channels but if more channels are required the whole route requires reconstruction before a second " carrier " line can be installed. Carrier circuits are more reliable for long distance telephony than ordinary physical circuits.

6. *Use of Wireless.*—It is not possible at the moment to say where, in all cases, wireless will be more economical than land lines. The capital cost of the former is considerably lower than the latter for any distance over which 12 miles of new route is required but the maintenance costs are higher and if there is likely to be development and connection is required to the main trunk system, a trunk line may prove to be justified. Wireless has the advantage of greater flexibility and for this reason it may be economical to instal it initially.

7. *Economical Development.*—The object of these introductory remarks is to show that economical telephone development in a country where the distances involved are more than say 200 miles, is not just a matter of erecting wires between two towns, but requires careful planning. The existing system has, so far as funds have allowed, been based on three Zone Centres at Oshogbo, Kaduna and Enugu with Group Centres at Lagos, Ibadan, Jos and Aba. It may be necessary to increase the number of Zone centres later and it will certainly be necessary to increase the number of Group Centres. The proposals now being made should not however be regarded as final. Considerable modification may be necessary when there has been time to study them in detail.

8. *New Construction.*—The telecommunications development map attached to this plan shows the new trunk lines and Wireless Stations necessary to make telephonic communication possible between the Central Secretariat, Chief Commissioners and Residents, between Residents and Administrative Officers, between Heads of Departments and the departmental officers in the Provinces, and all immediate commercial requirements. The map does not show all the minor lines which may be necessary when departmental requirements are fully known.

9. *Telephone Traffic Requirements.*—A sufficient number of inter-Zone and Zone to Group trunks must be provided to give reasonably prompt service on the " control " system. (" On demand " and " no delay " system will be installed in areas where justified by revenue). Tentative suggestions for new Zone and Group Centres are given in the map. Reconstruction of the route Lagos-Oshogbo or the provision of coaxial cable for multi-channel carrier should be provided for.

10. *Telegraph Traffic Requirements.*—Additional telegraph channels are required on the main routes and these can most economically be provided by carrier equipment, and the introduction of teleprinter working will still further speed up the disposal of traffic and increase the revenue earning capacity of each line.

11. *Improved Local Telephone Service.*—An essential feature of an efficient trunk telephone service is an efficient local service so that subscribers can be connected to trunks without delay and speech efficiency be maintained throughout. Provision for the conversion of the larger exchanges to automatic and improvement in equipment at more remote stations is therefore made.

12. *Capital Cost.*—In Schedule I an approximate estimate of the capital cost of these proposals is outlined. It cannot be a close or final estimate since prices of copper wire, steel poles, etc. vary considerably. The rates shown should however cover reasonable contingencies. Buildings which are an essential part of this development are also included. This schedule shows a total capital cost of £886,240.

13. *Revenue from Trunks.*—The revenue to be expected from these new trunks is extremely difficult to estimate. The capital cost of existing trunks (mostly built when labour was cheaper and on pole routes already erected for telegraphs) is about £150,000 and maintenance and operating costs are approximately £7,000 per annum. In 1943-44 cash revenue was £14,000 and the equivalent revenue for official calls about £15,000 but up to the present long distance trunks have not been available for use (c.f. paragraphs 4 and 5 above). There is also some additional revenue to be expected from new subscribers who ask to be connected because of trunk facilities.

14. *Number of Calls.*—About fifteen calls a day are required to meet maintenance and depreciation costs of a trunk line built on existing poles up to about 50 miles long and rather more than this for longer trunks. About three times that number of calls a day would be required to justify a new pole route on commercial grounds. Many of the new trunks asked for in the Northern Provinces would not therefore be revenue producing but those in Western and Eastern Provinces should at least pay for themselves.

15. *Revenue and Recurrent Expenditure.*—Schedule II gives a very approximate estimate of annually recurrent expenditure and revenue to be derived from the proposals. Only cash revenue is shown as no charge is made to other departments, and it is of course quite impossible to indicate the saving in time and other benefits which the country as a whole will receive from an efficient telecommunication system. The schedule also shows the additional European staff (included in annually recurrent expenditure) which will be required.

16. *Construction and Installation Staff.*—About 2,500 miles of new route, 2,300 miles of new wire on existing routes and 1,000 miles of reconstruction will be required. This will keep three construction gangs busy for ten years; four Construction Engineers will be required—to allow for leave. One Installation Engineer will be required for automatic telephones (possibly provided by the manufacturers) and one Wireless Installation Engineer for radio telephone work. Maintenance staff can undertake the other installation work and construction gangs will be recruited locally.

SCHEDULE I

Telecommunications Development, Capital Cost

		£
Oshogbo Zone	250 miles new pole route at £140 a mile	35,000
	30 miles 100 lb pair on existing route at £30 a mile	900
	180 miles 200 lb pair on existing route at £42 a mile	7,560
	Reconstruction Oshogbo-Akure	3,600
	Repeaters, Trunk equipment, power plant, etc.	500
	3 Radio telephone sets at £600	1,800
	New Telephone Exchanges	3,000
Benin Zone	250 miles new pole route at £140 a mile	35,000
	15 miles 100 lb pair on existing route at £30 a mile	450
	300 miles 200 lb pair on existing route at £42 a mile	12,600
	Repeaters, Trunk equipment, power plant, etc.	1,200
	Reconstruction Benin-Asaba, Lokoja-Baro	5,000
	3 Radio telephone sets at £600	1,800
	New Telephone Exchanges	4,000
	Radio link Warri-Burutu	5,000
Kaduna Zone	180 miles new pole route at £140 a mile	25,200
	530 miles 200 lb pair on existing route: £42 a mile	22,260
	Repeaters, Trunk equipment, power plant, etc.	1,600
	Overhaul Zungeru-Kaduna	1,000
	12 Radio telephone sets at £600	7,200
	New Telephone Exchanges	1,000
Kano Zone	330 miles new pole route at £140 a mile	46,200
	245 miles 200 lb pair on existing route at £42 a mile	10,290
	Repeaters, Trunk equipment, power plant, etc.	1,200
	2 Radio telephone sets at £600	1,200
	New Telephone Exchanges	3,000
Enugu	900 miles new pole route at £140 a mile	126,000
	500 miles 100 lb pair on existing route at £30	15,000
	620 miles 200 lb pair on existing route at £42	26,040
	Repeaters, Trunk equipment, power plant, etc.	4,000
	Reconstruction, various	3,000
	8 Radio telephone sets at £600	4,800
	New Telephone Exchanges	5,000
Aba Zone	300 miles new pole route at £140 a mile	42,000
	280 miles 100 lb pair on existing route at £30	8,400
	200 miles 200 lb pair on existing route at £42	8,400
	Trunk equipment, power plant, etc.	1,000
	Overhauls, various	2,000
	8 Radio telephone sets at £600	4,800
	New Telephone Exchanges	4,000
	River Cables	2,000
Cameroons Zone	50 miles new pole route at £140 a mile	7,000
	40 miles 200 lb pair on existing route at £42	840
	14 Radio telephone sets at £600	8,400
	New Telephone Exchanges	1,000
	General Development to Plantations	5,000
New routes (local lines) to outlying departmental offices		20,000
Telephones for Government officials at all stations		20,000
onversion of larger exchanges to automatic		100,000
Teleprinters		10,000
Multi-channel telegraphs on main lines		12,000

Inter-Zone Trunks

Carrier Equipment Lagos-Kaduna and Lagos-Enugu (Telephone only)	22,000
Additional Carrier Equipment for Benin, Kano and Aba Zones	17,000
Trunk Line Kaduna-Enugu, 450 miles two pairs at £60	27,000
Additional Carrier Equipment for Kaduna-Enugu	7,000
Completion of reconstruction Akure-Benin	5,000
Radio-telephone link Buea-Enugu	5,000

Connection to International Telephone System

Reconstruction Lagos-Oshogbo and additional carrier equipment	15,000
Telephone Wireless Station, Lagos	30,000

SCHEDULE I—*continued*

Essential Buildings for Development	£
Extension of Lagos Workshop	5,000
Technical School, Kaduna	2,000
Technical School, Enugu	2,000
Extension of Technical School, Lagos	1,000
Stores, Apapa	15,000
Stores, Port-Harcourt and Kaduna	10,000
Buildings for Carrier Equipment Repeaters, etc.	20,000
Telephone Exchange Buildings (where no Post Offices)	2,000
Buildings for Wireless installations	23,000
Total	£886,240

SCHEDULE II

Telecommunications Development

Estimated Recurrent Expenditure and Revenue

Description	*Capital Cost*	*Recurrent Expenditure*	*Estimated Revenue*	*Remarks*
	£	£	£	
1. Oshogbo Zone Development	52,360	1,000	3,000	Revenue figures are based on assumption that there will be 5-15 calls a day on trunks; and on rentals from new subscribers. Potential revenue would be ten times this figure if all trunks were fully used. Expenditure includes two Telegraph Engineers, African Inspectors, Linemen, Operators; transport allowances, maintenance, fuel for wireless stations.
2. Benin Zone Development	65,050	1,200	4,000	
3. Kaduna Zone Development	58,260	3,000	2,000	
4. Kano Zone Development	61,890	1,200	3,000	
5. Enugu Zone Development	183,840	4,000	6,000	
6. Aba Zone Development	72,600	3,000	6,000	
7. Cameroons Zone Development	22,240	5,000	2,000	
8. Telephones to Government officials at all stations.	20,000	500	—	
9. Long lines to Departmental offices	20,000	500	—	
10. Conversion to Automatic telephones	100,000	—	?	Four Europeans Inspectors required to set off against saving in operators.
11. Teleprinters ..	10,000	4,000	?	Includes four Teleprinter Mechanics.
12. Multi-channel Telegraphs	12,000	1,500	?	Includes one Telegraph Engineer. The revenue from items 9-11 is problematical and cannot be stated in figures. If traffic demands grow the conversion will be justified by the increased revenue.
13. Inter-Zone Trunks ..	83,000	3,000	4,000	Includes four Telephone Exchange Superintendents.
14. Connection to International Services	45,000	4,000	6,000	Includes two Shift Engineers and two Operators.
15. Buildings	80,000	—	—	
Total .. £	886,240	31,900	36,000	

APPENDIX VI

MARINE DEVELOPMENT PROGRAMME

Summary of proposals prepared by Captain A. V. P. IVEY, C.B.E., R.D., R.N.R., *Director of Marine*

In the following memorandum a list is given of proposed works and estimated costs to cover the 10 years 1946-47 to 1955-56. In order to carry out these proposals additional craft, plant and personnel will be required as well as provision for labour, materials and fuel to be used on individual projects.

2. *Temporary Staff.*—The 10 Marine Officers (temporary) asked for are to man the new dredgers, assist in hydrographic surveys and undertake opening of waterways; the Engineer Officers (temporary) are required for the new dredgers and reclamation vessel. The salary scale in both cases will be that at present provided for Marine Officers, viz. £400; £400; £450-25-600; £660-30-840, but owing to the great difficulty which may be expected in obtaining officers with requisite qualifications the point of entry into the salary scale will, in most cases, be in the region of £600 per annum. This rate has therefore been used as a basis for calculation and with allowances etc. the total estimated expenditure in respect of personnel is £191,190.

3. *New Works.*—(Labour, Materials and Fuel).

(*a*) *Lagos Harbour.*—At the existing draught limitations there are many cases in which the loading of ships cannot be completed in this port. During the war the restrictions in Lagos Harbour depths have seriously handicapped the handling of convoys and were a contributory cause for the necessity of constructing at considerable expense to Imperial funds, the large boom at Takoradi. It is now proposed to increase the depths and widths of the harbour channels, from the entrance up to and including the Apapa quays, to allow for the manoeuvring of vessels of 30 feet draught at all states of the tide.

(*b*) *Escravos Bar.*—Owing to the shoaling and movement of the Forcados Bar to leeward an alternative entrance to the ports of Sapele, Burutu and Warri is imperative and it is proposed to use Escravos Bar for this purpose. The present advised draught of 14 feet at high water is inadequate and, in order to allow vessels to lift larger tonnages at the above mentioned ports, it is intended to dredge this bar to a depth of 20 feet at low water.

(*c*) *Burutu Channel.*—The dredging of this channel to a depth of 20 feet at low water is complementary to the Escravos Bar project.

(*d*) *Bonny Bar and River.*—To make fuller use of the depths obtaining off Port Harcourt quays it is proposed to attain a least depth of 24 feet on the Bonny Bar and in the River.

(*e*) *Calabar Bar and River.*—To be dredged as required by the expansion of Calabar as a port resulting from the development of the Upper Cross River.

(*f*) *Lekki Flats.*—The project is to dredge the existing channel to allow the passage of deeper draught self-propelled craft carrying produce from the Delta area to Lagos.

(*g*) *Sheba Bank.*—It is proposed to dredge this bank to enable larger self-propelled craft to negotiate this area. This is complementary to the dredging of Lekki Flats.

(*h*) *Minor Canals: Ondo Province.*—It is proposed: (*i*) to cut a canal between Eyinosa and Artijere, thus connecting the Talita River and Aboto Creek; (*ii*) to cut a canal between the Oluwa and Aboto Creeks in the vicinity of Igbogada, and (*iii*) to cut a canal between Alapa and Akata.

(*i*) *Stubbs Creek.*—It is proposed to widen and dredge a portion of this creek and thereby open up an inland water route between Eket and Calabar. This would eliminate the necessity for evacuating produce by sea from the Eket area over the dangerous Qua-Ibo bar and would allow the water-borne transport of produce now carried by the Ikot Ekpene-Uyo-Oron roads.

(*j*) *Opobo-Eket Creek.*—This project entails the dredging of the only creek which connects the Imo and Qua-Ibo rivers and is a corollary to the Stubbs Creek project.

(*k*) *Nun or Niger River.*—It is proposed to dredge Atissa Creek, connecting the Nun River and Anyama Creek, also to dredge the Nun River above Sabagria to allow launches to operate to the confluence of the Nun and Forcados Rivers. Both these projects are designed to develop transport facilities in the Degema Division which is solely dependent on water transport.

(*l*) *Onitsha Island.*—It is proposed to dredge that part of Onitsha Island which is encroaching into the low river navigable channel and also the shallows off the port.

(*m*) *Omu Creek.*—Work has already commenced on this project which entails the cutting of a canal about 7 miles in length on the site of the old creek bed, thus connecting Arapagi and Okegun. The object is to provide a shorter and safer route for canoes carrying produce between the Delta area and Lagos.

(*n*) *Opening Waterways.*—It is proposed to spread over 10 years the opening, widening and, where necessary, the deepening of the waterways indicated on Maps prepared and submitted to Government recently.

(*o*) *Surveys.*—It is proposed to undertake surveys of the following areas:—

Lekki Flats.
Omu Creek.
Stubbs Creek.
Opobo-Eket Creek.
Nun River.
Atissa Creek.
Onitsha port.
Cross River.
4 areas in the Sudd Region where canals are to be cut—Map 70/15.
Benin Bar and River.
Escravos Bar and River.
Forcados Bar and River.
Akassa Entrance.
Bonny Bar and River.
Opobo Bar and River.
Calabar Bar and River.
Rio del Rey Estuary.
Lagos to Lekki Flats
Lagos Harbour.
Benue River.

The total cost of labour, materials and fuel for all the new works described in this paragraph is estimated at £624,200.

4. *New Vessels and Plant.*—Two 3,000 ton dredgers costing £931,500 will be required for the deepening of Lagos harbour, Escravos Bar, Bonny and Calabar Bars and Rivers. £100,000 is available from the Marine Renewals Fund towards this sum. One reclamation vessel at £270,000 is needed for the additional reclamation work envisaged in Lagos and environs and a sum of £20,000 towards this is available from the Marine Renewals Fund. Minor equipment will include plant suitable for opening up, widening and deepening the smaller canals and waterways. In order to reduce the time taken in and increase the efficiency of

hydrographic surveys, "echo" sounding equipment is essential both for inshore and main channel depths. A specially equipped survey launch, strongly built and suitable for work in the shallow water of the several bars is also necessary. The majority of survey instruments now in use are obsolete and no current meters or other up-to-date devices are available.

5. The following vessels will also require replacement:—

Vessel	*Year Required*	*Estimated Total Cost**	*Estimated sum available in M.R.F.*	*Estimated Total Required*
		£	£	£
Collier *Enugu* ..	1946-47	160,000	20,000	140,000
Bar Tug *Vulcan* ..	1946-47	77,000	10,000	67,000
Bar Tug *Atlas* ..	1947-48	77,000	10,000	67,000
Harbour Tug *Barman*	1946-47	50,000	10,000	40,000
Grab Dredger *Mole*	1947-48	50,000	10,000	40,000
Lifeboat *Attendant*	1946-47	11,000	5,000	6,000
Totals ..	—	£425,000	65,000	£360,000*

6. *Buoys, Beacons and Lighthouses.*—It is proposed to increase aids to navigation on the coasts and rivers of Nigeria as follows:—

Lagos.
New Fairway light and whistle buoy.
Light on East Mole.
Electrically operated foghorn on East Mole.
Erection of Lighthouses at the following points:—
Escravos Point.
Field Point, Bonny River.
West Point, Opobo River entrance.
West Point, Calabar River.
Radio talking beacon giving automatic warnings to Mariners at Akassa.
R/T communication between Akassa and Port Harcourt.
13 additional lightbuoys and 3 shore beacon lights in the Bonny River to enable vessels to enter and leave the port of Port Harcourt at all hours of the day and night.

7. The total expenditure on development and replacements as far as can be foreseen at present, is therefore:—

	£
Staff	351,740
New Works	624,200
Plant, vessels, etc. (including replacements) ...	1,542,000
Total estimated expenditure	£2,517,940

8. In accordance with Government policy the questions of the provision of a larger floating dock or graving dock in Lagos, improvements to the quay and warehouse at Calabar and dredging at Port Harcourt have been deferred for consideration at a later stage in the operation of this plan. Nevertheless in order to provide an approximate picture of the cost of the Marine Development Plan a token amount of £1,000,000 has been shown in the estimates under Loan Funds for Marine Developments during the second five year period. The actual details will be decided at a later stage.

* It is probable that these figures will require amendment when final quotations have been received.

APPENDIX VII

DEVELOPMENT OF HEALTH SERVICES

Summary of proposals prepared by Dr J. W. P. HARKNESS, C.M.G., O.B.E., *Director of Medical Services*, and Dr G. B. WALKER, C.B.E., *Deputy Director*

Nigeria is four times the size of Great Britain but has only about half its population. Although there are many large African towns the great mass of the people are peasant farmers. Out of about 22,000,000 people only some 70,000 are engaged in mining. There is practically no industrial population. Although there are motor roads between the larger towns and administrative centres these and the railways do not by any means serve the full needs of the country. Large numbers of the population still live in comparatively inaccessible villages and can only be visited by Government officers at infrequent intervals. It is not surprising, therefore, that in large areas the inhabitants are very primitive and are reluctant to seek the benefits of modern medicine, though in others there is an increasing demand for medical services.

2. To serve such a country there is a small Government Medical Service, supplemented by voluntary bodies and a few private practitioners in the bigger cities in the South. There are one hundred and sixty-five Government Medical Officers. Owing to the diversity of the duties of the Medical Department only about one hundred of these doctors are available for ordinary clinical work at any one time. There are thirty-five mission doctors and thirty-one private practitioners. A total of fifty-three Government and Native Administration hospitals provides about 4,275 beds (less than 1 to 5,000 of the population). In addition there are twenty-five Mission institutions, including maternity centres, which provide about 1,500 beds.

3. If medical facilities in Nigeria are compared with those in the United Kingdom, it should be remembered that the local services have been built up in fifty years from very limited resources of staff, funds and buildings. In England and Wales there are 77,000 general beds provided by voluntary hospitals and 130,000 provided by public authorities. Excluding private nursing homes, there is one bed for every 250 people. This does not take into account the additional beds for infectious diseases, tuberculosis and mental diseases. For the latter alone there is accommodation for 130,000 cases, one bed to every 350 of the population. Of 72,000 doctors in the British Medical Register about 40,000 are in active practice in Great Britain and Northern Ireland.

4. The following proposals for development of local medical services during the next ten years do not attempt to approach the British standards. They provide only a modest framework, which the population should be able to maintain financially and which will be capable of being developed gradually into something more approaching the real needs of the country. It must be regarded as the barest minimum if " development " is to have any real meaning.

5. Permanent improvement in a nation's health cannot be secured by clinical medicine alone. There must be a steady advance in all factors which contribute towards healthy life, good water supplies, housing, sanitation, nutrition, and conditions of work. The first three are elementary objects of progressive

administration in regard to which the Medical Department is advisory and not executive. For this reason these development proposals are confined to training of staff, the expansion of the hospital and dispensary services, and the provision of field units for an aggressive campaign of clinical and preventive medicine. While the emphasis must be placed on rural medicine an efficient hospital and dispensary system will always be necessary. The early development of these services is essential in order to win the confidence of the public. Without this, preventive medicine cannot be successful.

6. The existing medical and health services have been built up in little more than one generation from small beginnings. Until now the limiting factor has been finance, which has always had to take precedence over the real needs of the people. Annual expenditure on medical services has been about sixpence per head of the population, probably the lowest in the Colonial Empire. In the circumstances the results that have been obtained are a credit to all who have shared in their creation and maintenance. This does not alter the fact that present services are completely inadequate for a country of this size. The proposals that are made for expansion are the barest minimum compatible with development. Their total cost over ten years would amount to only about four-fifths of the present annual revenue, or an amount equivalent to an annual expenditure of ninepence halfpenny per head of the population. In view of the importance of improved health to the success of all social and economic progress this seems little enough.

7. The time schedule is subject to an initial lag owing to other priorities in the building programme of Government, the difficulty of securing suitably qualified medical staff, and the period required for training auxiliary personnel. The early establishment of an organization for the collection and assessment of vital statistics is an important accessory of any programme of medical development; indeed a statistical department is a primary essential if any accurate assessment of the results of development is to be made, and its direction to the best purpose assured. A census of the population is long overdue. It is understood that the provision of such a service is under consideration.

8. The expansion of medical services will not itself achieve permanent improvement in the general health of the population, unless it is based on a sure foundation of environmental hygiene. Refuse disposal, the prevention of nuisances, the construction and cleanly maintenance of the public and private latrines, the cleanliness of the home and streets, and the protection and proper use of safe water supplies are all essentials. These sanitary services are the elements of efficient local self-government. Any community, however small, which does not maintain these services efficiently, through its own local council or village committee, has little claim to medical facilities. The work of a dispensary, or hospital, and maternity and child welfare centres would be largely wasted effort if the convalescents return to the same insanitary conditions which caused their disease.

General Medical and Health Services

(i) *Hospitals and Dispensaries.*

9. The first objective is the establishment of one or more first class hospitals in each Province, with full facilities for the scientific investigation and treatment of disease (Laboratory, X-ray, and electro-therapeutic departments). They will serve the local population in the towns in which they are situated, and take in more

serious and obscure cases from smaller rural hospitals in outlying areas. The latter in turn will draw their patients from circuits of village dispensaries supervised by medical officers in charge of sub-areas. Ambulance and transport services will be needed to complete the organization.

10. The target for this expansion is the provision, by the end of ten years, of one bed per 2,000 of the population. This ratio must, however, vary according to geographical conditions, general development and the progressiveness of the population. The Schedule indicates the proposed distribution of hospitals by Provinces, although actual locations will be subject to further consideration. The priorities for the erection of these hospitals, as with other elements in this Health Development Plan, must remain a subject for decision from time to time according to the capacity of the Public Works Department in carrying out new construction, the relative importance of the demands of various districts and general economy in the carrying out of the over-all development plan.

11. To reach this desired ratio an additional 7,396 beds will have to be provided. As the average cost of extensions to existing hospitals will probably be less per bed than the cost of complete new hospitals the average per bed for the whole programme has been estimated at £325. This sum covers the purchase of land, cost of building, and the permanent equipment, and furniture but not expendable equipment. In the plans of hospitals housing is included for the minimum of staff whose constant residence at the hospital is essential to deal with emergencies. But wherever hospitals are being established provision is also being made for an additional Medical Officer who must be constantly available for supervision of rural work in the area served by the hospital, but this officer will reside in the usual residential area of the Government station.

12. The total recurrent cost of maintaining these new and extended hospitals over ten years will be about £1,687,000. Construction costs over the same period are estimated at £2,483,000. Special expenditure will amount to about £635,000, of which £496,000 will be required for expendable medical and surgical equipment, and £139,000 will be used for purchase of vehicles for ambulance services. It should be noted here that this special expenditure of £635,000 is intended to cover the needs not only of the general hospitals, but also of the mental hospitals, maternity hospitals and tuberculosis sanatoria which will be referred to in later paragraphs.

(ii) Mass Treatment of Epidemic and Endemic Diseases.

13. Extensive outbreaks of smallpox and cerebro-spinal meningitis still ravage the country every year. The former can be prevented by adequate vaccination campaigns, while cerebro-spinal meningitis can be controlled by prompt isolation and treatment. It is proposed to establish a series of mobile epidemic units to deal promptly with serious outbreaks of infectious disease. During non-epidemic periods the teams will carry out mass treatment campaigns against various endemic diseases, particularly venereal disease, yaws, schistosomiasis, etc. Such campaigns are the only effective way of controlling these diseases in rural areas. Where possible the personnel will also carry out vaccination, rural health improvements, anti-malaria measures and health and nutrition surveys. The units will have to be provided with motor transport and with launches in some areas of the south. Eighteen teams will be required, but owing to a time lag in securing staff and equipment, training of subordinate staff, and provision of housing at the bases

from which they will operate, the formation of these teams must be staggered. Half of them should be in operation by the year 1949-50. The total recurrent cost over ten years for eighteen units would be about £730,000, special expenditure £130,000, housing £85,000.

(*iii*) *Rural Health Centres.*

14. Experience has shown that in order to consolidate the reduction of disease effected by mass treatment, there must be adequate numbers of permanent treatment centres. Already every Province has its system of Native Authorities dispensaries. These will have to be improved and expanded to serve as centres for preventive medicine amongst the rural population. To help in this a system of Rural Health Centres will be necessary. Twenty-one centres of a type which has proved of practical value in other countries will be required. They will undertake ante-natal and maternal care, child welfare, school medical work, control of endemic disease, improvement of village sanitation and hygiene, health education and domiciliary midwifery. The staff in each case will also be responsible for the supervision and direction of a circle of improved Native Authorities dispensaries. They will undertake the supervision of practising midwives and maternity homes, and an important part of their duties will be home visiting, home nursing and in particular the development of health consciousness in the home by example, education, and propaganda.*

15. The total recurrent cost of twenty health centres during the ten years' programme will be £326,000, special expenditure £16,000 and building costs, including housing for staff, £149,000. To begin with Central Government will be responsible for the maintenance of the centres, but later they should be taken over by the Native Administrations.

(*iv*) *Maternity Hospitals.*

16. In the Southern Provinces there is a crying demand for maternity services. This is a field which is ripe for development. There are few, if any, initial prejudices to overcome, as the African is extremely fond of children. In a considerable stratum of society children are regarded as a financial asset. There is no difficulty in persuading the prospective mother in the South to attend ante-natal clinics and to enter a maternity home, however primitive, for delivery. The result is that ante-natal and midwifery centres become extremely popular wherever they are established. Very soon would-be patients exceed the capacity of the staff and the accommodation available. Owing to unsuitability of the home, general overcrowding, and the absence of the simplest domestic requirements for orthodox midwifery, progress in developing domiciliary midwifery will be much slower. As long as the supply of trained midwives is relatively small it is more effective to employ them at small maternity centres. There the midwife can look after a larger number of cases than she could if she had to attend patients in their homes.

17. The first essential is therefore the training of more midwives, and this must be done in conjunction with maternity hospitals. It is intended to establish new or expand existing maternity hospitals at Lagos, Aba, Calabar, Ibadan, Ondo, and Ilorin, and they will be designed to include training facilities and hostels for pupil midwives. Provision for the reception of maternity cases in special wards will also be made at all of the general hospitals.

* Mobile cinema and health propaganda units play an important part in promoting rural health. These were started first by the Medical Department in 1936, and met with immediate and continued success. No provision is made here for the development of such units as, since the war, the have been taken over by the Public Relations Office. The need for developing this important aspect of public education cannot be over-emphasized.

18. The cost of building the extensions and new maternity hospitals will be £109,000 over the ten years. Recurrent costs will total £32,000. The first figure includes the cost of hostels and lecture rooms for pupil midwives, but the cost of training the midwives is shown elsewhere (paragraph 26). The cost of expendable equipment is included in the general provision for special expenditure referred to in paragraph 12.

Training

19. The expansion of the medical and health services will be limited entirely by the rate of supply of qualified medical staff and trained auxiliary personnel. For national, as well as for economic reasons, facilities for their training must be provided in Nigeria as the major portion of the work of the expanded services must be carried out by African themselves if development is to achieve any permanency. The rate at which staff can be trained will be related to the number of candidates, and this in turn will depend upon the speed of development of secondary and higher education.

(*i*) *Medical School.*

20. First in importance comes the development of the School of Medicine of Nigeria. The existing school, working under great difficulties in the matter of staff and facilities, has made a notable contribution to the medical services of the country. Of the eighty-four African medical practitioners on the register, forty-six qualified in Britain (some of these are in practice there), while thirty-eight graduated at the local School of Medicine. All the latter are practising in Nigeria, and thirty-four of them are in Government Services. There are also in the Service twenty-two who qualified in Britain. The work of the medical services during the war would have had to be curtailed greatly but for the assistance of the graduates from the local School of Medicine.

21. There is little doubt that Nigeria can absorb the eighty graduates a year to be trained at the proposed new University College Medical School at Ibadan. The present ten year development programme will absorb a minimum of one hundred and fifty locally qualified African doctors, two-thirds of whom will be needed after the year 1951-52. The provision of the University College Medical School is therefore of urgent importance, but as this will be dealt with in connection with the Elliot Commission's report, no provision of funds has been made in this development plan for the training of medical officers.

(*ii*) *Pharmacy Schools.*

22. The programme provides for the enlargement of the present Lagos Pharmacy School in 1946-47. The school trains pharmacists for Government and private practice to a standard not far below the Chemist and Druggist qualification in the United Kingdom. In the Northern Provinces a new Pharmacy School will be provided for northern students. For the time being entrance here will be on a lower educational qualification, but as education develops sufficiently in the North, the entrance standard will be raised together with that of the final qualification. The cost will be approximately £16,000 for the extension at Lagos, and for construction, including residential accommodation for pupils, in the North. Recurrent expenditure, which will reach a maximum of about £4,000 per annum, will total £28,000 over the ten years.

(*iii*) *Training of Nurses.*

23. The long term policy is to develop nursing as a profession for women. This will take place *pari passu* with the development

of female education. On the demobilization of the West African forces employment will have to be found for about two thousand semi-trained male nursing orderlies. In ten years the programme of expansion of hospitals and health services, together with maintenance of present establishments, will require many more than this number of nurses and sanitary inspectors. Some of the more suitable ex-soldiers will be absorbed immediately to bring present hospital establishment to an adequate ratio of nurses to patients. Others will be engaged to staff rural dispensaries and to provide a village health inspectorate. Once the imminent surplus of partially trained nurses has been absorbed, a steady flow of trained nurses will be required both for the later part of the programme of expansion and for future maintenance.

24. Preparations will have to be made for the training of young women of good class and education to take their place in the nursing service, a profession for which women are particularly suited. It is proposed to establish three probationer nurses training schools at once, one each in the Northern, Eastern and Western Provinces. From these schools probationers will be posted for general training under sister tutors at the larger hospitals. Selected young women, who show real promise, will be given the opportunity of training as sister tutors in the United Kingdom by means of scholarships. As the facilities for local training are improved the necessity for sending women to the United Kingdom will diminish, since nurses should be able to obtain a breadth of outlook and pride of profession in the atmosphere of the teaching hospital of the Medical School and other first class hospitals.

25. The recurrent cost of these probationer training schools will be approximately £9,000 per annum and special expenditure of £1,500 will be required for equipment. The capital cost, including hostel accommodation, will be about £10,600 each. Provision for building two only is included in this programme as steps are being taken to acquire an existing building for the Lagos school from funds provided in the Nigeria Estimates.

(*iv*) *Training of Midwives.*

26. Midwives are trained at six Government midwifery schools. Three of these are Grade I midwives training schools, giving a course which lasts a minimum of two years. The standard aimed at is comparable with that required for the Certificate of the Midwives Board in the United Kingdom. At the other centres Grade II midwives are trained. This course seeks to give a good practical knowledge of midwifery and infant care to women of lesser education. Teaching extends over one year. The examinations are oral and practical. Under the control of the local Central Midwives Board Grade II midwives are also trained at three general hospitals and a number of small maternity homes, run by missionary bodies. The establishment of rural health centres and the posting of midwives to outlying dispensaries will necessitate an increase in Government training schools. These will be developed at the maternity hospitals previously referred to, and at each of these a hostel and lecture rooms will be provided. The recurrent cost of the training scheme will be £92,000 plus £1,500 for school equipment.

(*v*) *Health Visitors.*

27. At present the training of health visitors is carried out in Lagos. Two additional training schools at Ibadan and Aba will be needed. There are schools for sanitary inspectors at these places, so that facilities will be available for teaching of general and domestic hygiene to the pupil health visitors. At Lagos and Aba there are also well developed Infant Welfare Services. A similar

service will be built up at Ibadan. The development programme includes provision for the staff of women doctors and sister tutors required. The cost of only one school, about £11,000 capital and £3,400 recurrent, is included in the present programme.

28. The syllabus of training of nurses, health visitors and community nurses will be modified in accordance with the recommendations of the Rushcliffe Committee on Colonial Nursing.

(*vi*) *Sanitary Inspectors.*

29. The training of sanitary inspectors is well organized. It has suffered a temporary set-back by the closure of the school in the Eastern Provinces when the buildings had to be used for military training. It was hoped to re-open the school in 1945 by acquiring premises built at Aba, at the beginning of the war, for an Army school. Unfortunately, owing to possible demobilization requirements, this has not materialized. The re-opening of the Eastern Provinces Sanitary School can no longer be delayed even for military exigencies, and so a new school is being constructed at Aba from Colonial Development and Welfare funds during 1945-46. as well as extensions to hostel accommodation at Kano and Ibadan.

30. The training of sanitary inspectors is based on the syllabus of the Royal Sanitary Institute suitably modified for local conditions. Numbers of inspectors take the external examination of the Institute, as an additional qualification for advancement in the service. No provision for the expansion of these training schools is included in this programme as the cost will be borne entirely on the Estimates, apart from the Colonial Development and Welfare assistance provided during 1945-46.

Special Services

(*i*) *Tuberculosis:*

31. Tuberculosis is a problem causing much concern as the African is very susceptible to the disease, which as a rule is rapidly fatal. The conditions of poor housing and over-crowding, in which he lives, provide a fertile soil for its spread. In Lagos, the only area for which accurate vital statistics are available, tuberculosis is responsible for 9 per cent of all deaths. Lack of knowledge of the reaction of the African both mentally and physically to sanatorium life and other methods of treatment complicates the position. Some experience is being accumulated of collapse therapy. Post mortem findings show that spontaneous recovery does occur. A specialized enquiry will be required before large work or expenditure on tuberculosis can be justified, and a close study of the incidence of the disease in different parts of the country is needed, while the conditions under which natural recovery occurs will have to be known before suitable preventive measures can be devised.

32. Provision has been made in the 1945-46 Estimates for the services of a specialist in this branch of medicine, and for the personnel and equipment for a special investigation unit. Meanwhile a small tuberculosis ward has been provided at Lagos Infectious Disease Hospital. Small tuberculosis pavilions should be attached to general hospitals, but it is feared that the high mortality, due to the late stage at which patients come in for treatment, will discourage patients from seeking admission. These wards may, however, provide useful information as to the course of the disease in favourable conditions of nutrition and hygiene and in differing climates. It is likely that with propaganda and

increased enlightenment, some type of sanatorium will be needed Four of these are envisaged. They will be situated at Zaria, Jos Enugu and Ibadan. To start with they will be on the modest scal of sixty beds with possibility of expansion. Two will be built i 1950-51. By this time more information should be available, an it should be possible to plan the lines on which prevention an treatment can develop.

33. The costs are estimated at £48,000 for buildings, an £48,000 recurrent expenditure over the ten years.

(*ii*) *Dental and Ophthalmic Services.*

34. At present there are only two Government dentists and si private practitioners in Nigeria. There is a wide field for develop ment in this field particularly in private practice. The popula idea that the African is invariably blessed with sound teeth i incorrect. Provision has been made already in the curren Estimates for five additional posts, mainly for school dental work Dentists will have to be trained locally if the needs of the countr are to be served.

35. There are four physicians with higher qualifications i ophthalmology on the Nigerian medical register. One is a missio doctor, two are Government medical officers and one a privat practitioner, employed part-time by Government for school childre in Lagos. Though the incidence of eye diseases it not comparabl with that in the Middle East and parts of India there is a real nee for an ophthalmic service. There is much preventible eye diseas particularly in the Northern Provinces. This will be investigate when staff is available, but, as with dentistry, special training i ophthalmology will have to be provided locally. The new medica school should have such facilities. Meanwhile two additiona dentists and five ophthalmic surgeons will be required to allow o one of each being posted to the main centres in the country.

(*iii*) *Mental Health Services.*

36. There are no mental health services in Nigeria. Apart fro small asylums in Lagos and Calabar, violent mental cases ar accommodated in annexes to prisons, where there is neither suitabl accommodation nor facilities for treatment. Plans were made fo building a modern mental hospital in 1928, but unfortunatel financial stringency led to the project being postponed. Later th onset of the war and the use of the chosen site for military purpose caused further postponement. Provision has been made in th current Estimates for a specialist alienist. He will advise on th development of mental health services and later will take charge o a new mental hospital which is about to be built at Ibadan at a cos of £100,000 from Nigerian funds under Public Works Extraordinary Plans are in preparation and a site has been acquired. At a late stage (about 1952) it is proposed to expand this hospital under th Development Building Programme at a cost of £75,000. Thi hospital will be used as a training school for mental nurses an attendants.

37. It is proposed to construct two further mental hospitals i the Eastern and Northern Provinces, each to accommodate 25 patients in the first instance and capable of expansion to 500 an then to 1,000 beds. It is expected that the first portions of these tw hospitals will be built about the years 1950-51 to 1951-52 at a cost o £100,000 each, and provision has been made for this in the buildin section of the plan. A further provision of £60,000 has been show in the Development Building Programme for the extension of th Eastern Provinces hospital by 150 beds at a cost of £60,000 i 1955-56.

38. The cost of maintenance of the mental services and hospitals will be paid for from Nigerian funds, and it is expected that this will amount to £228,000 over the ten year period.

GENERAL

(*i*) *Administrative Staff for Development.*

39. The new draft Constitution of Nigeria provides for a necessary decentralization of Departmental and financial administration. As regards the Medical Department development would be unworkable without such decentralization. The programme which has been outlined, modest though it is by modern standards for a population of 22 million, will require adequate administrative staff. The Deputy Directors of Medical Services in the Northern, Eastern and Western Provinces, will be assisted by staff with special administrative and executive experience both in the medical and preventative branches of medicine. Provision is made in this programme for three Assistant Directors and for ten additional officers of the grade of Senior Medical and Senior Health Officers. In the administrative ranks the title Health Officer will be abolished in order that there may be no superficial division between curative and preventative medicine. All branches of the service will be the equal responsibility of the administrative staff, though particular officers may be more concerned with the administration of one branch of the service. The title " Medical Officer of Health " will be retained only for the officers posted for the particular duties of this office in the larger towns. The title will appertain to the post and not to the individual. In the smaller divisions of the country the Senior Officer will be responsible for the general direction of all branches of the service in his area in accordance with the policy of the Department. The cost of this extra administrative staff will rise from £8,000 in 1946-47 to £20,000 in 1955-56.

(*ii*) *Specialists, Pathologists, Dentists Radiographers, Senior Nursing Staff, Technicians, etc.*

40 The Department lacks specialists in the special branches of medicine, both doctors and their auxiliary staff. Specialists in ophthalmology, diseases of the ear, nose and throat, radiography and electro-therapeutics are required immediately. Provision is made for these and also for the additional surgical and medical specialists, pathologists, etc., required for the larger centres as the development programme proceeds. Expenditure will rise from about £12,000 in 1946-47 to £108,000 in 1955-56.

(*iii*) *Temporary Medical Officers.*

41. A brief explanation is desirable in regard to the provision of funds for the employment of temporary Medical Officers. Since 1930 there has been a large increase of out-patient attendance and clinical work at the hospitals, but owing to pre-war financial stringency, followed by the war-time difficulties of obtaining Medical Officers and Nursing Sisters in replacement of those absorbed into the Army, the whole time of the Medical Officers has been absorbed in hospital work, and they have been unable to provide adequate supervision of clinical work at rural dispensaries. In order to bring village services back to within reasonable distance of what is desired, provision has been made in the Plan for a certain number of temporary Medical Officers who, however, will be absorbed as time goes on into the hospital and dispensary services as these are developed according to the programme. In the meantime these officers will be used primarily for the purpose of re-establishing the dispensary work in the villages and in initiating rural health work.

42. Provision has therefore been made in the Plan for twelve additional temporary Medical Officers to be engaged in 1946-47 and as has already been explained these will, in course of time, be absorbed into the services provided in the plan. It is hoped that by 1946-47 Colonial requirements for development will be given due weight in allocations from the general service pool. Young officers will be required, not officers invalided or retired from military service, as the need for improving the rural dispensary services will entail much travelling and living under rough conditions.

43. The recurrent cost of these officers will amount to an average of nearly £9,000 per annum to a total of £52,000 for the first six years of the programme, plus £6,000 for capital expenditure on motor transport.

(iv) Relief Staff

44. A total of £78,000 over the ten years has been provided in various places in the programme of expenditure to cover the cost of relief staff. This is necessary in order to cover routine leave and casual sicknesses and invalidings of the regular staff.

(v) Housing of Staff

45. No specific provision has been made in this scheme for the additional housing required for extra Administrative and Specialist Officers, or for Medical Officers and Nursing Sisters except in certain special cases, e.g. hospitals, rural health centres and epidemic and endemic units. It will, therefore, be necessary for provision to be made for this additional housing in the usual Government stations and it is estimated that over the ten year period these requirements for medical services alone will amount to approximately £550.000 This will be a charge on Nigerian loan expenditure and will be dealt with in connection with the additional housing required as the result of the expansion of the services arising out of the Development Plan and the decentralization proposals in connection with regionalization arising out of the proposed new Constitution.

Finances

46. This plan for the development of Medical and Health Services over the ten year period 1946-47 to 1955-56 will involve an estimated total expenditure of £8,323,327 exclusive of the £550,000 referred to in paragraph 45 for the general increase in housing requirements. The sum referred to above will involve £3,260,550 for new building construction and the extension of existing institutions, the financing of which will be dealt with separately under the Building Development scheme but it would be opportune at this stage to give a brief analysis of this expenditure as it will be divided between the various activities proposed under this Medical and Health Plan:—

	£
New Hospitals and Extensions	2,483,250
Housing for Staff, Epidemic Units	85,500
Rural Health Centres	149,000
New Maternity Hospitals	109,400
Pharmacy School	16,300
Nurses Training School	23,450
Health Visitors School	10,650
Tuberculosis Sanatoria	48,000
New Mental Hospitals	335,000
Total	**£3,260,550**

47. After allowing separately for this building work the net cost of the Medical Development scheme will be £5,062,777 for recurrent and special expenditure for equipment during the ten year period. Of this amount £4,270,865 refers to recurrent expenditure and £791,912 to special expenditure for medical and surgical equipment, instruments and vehicles.

48. The figures of recurrent expenditure do not include the cost of pensions liabilities which will be borne in the routine manner in the Nigerian Estimates. The figures are obviously approximations at this stage, and the *exact* costs of all the services involved will only be revealed as each year's estimates of actual expenditure are prepared.

49. The details of the estimated expenditure in this ten year plan are set out in Table V. Buildings appear under the Building Programme Table, Table XVI.

50. In conclusion it should be noted that in this plan certain aspects of medical and health development have been excluded because they are already being dealt with under special schemes, namely anti-malaria measure, leprosy control, and the sleeping sickness campaign.

SCHEDULE

Development of Health Services

Hospital Requirements and possible sites

No. Province	*Population (approx.)*	*Hospital Centres*	*Class of Hospital*	*Beds existing*	*Beds proposed*	*Increase*
1. Adamawa	700,000	Yola	B	36	116	80
		Jalingo	C	—	48	48
		Mubi	C	—	48	48
2. Bauchi ..	1,000,000	Bauchi	B	56	154	98
		Azare	C	43	63	20
		Gombe	C	—	90	90
		Darazo	C	—	48	48
3. Benue ..	1,000,000	Makurdi	B	79	189	110
		Keffi	C	—	60	60
		Oturkpo	C	—	60	60
		Gboko	C	—	60	60
		Wukari	C	40	90	50
4. Bornu ..	1,200,000	Maiduguri	A	89	199	110
		Biu	C	—	48	48
		Dumboa	C	—	36	36
		Geidam	C	—	48	48
		Mongonu	C	—	36	36
		Nguru	C	—	48	48
		Bama (Dikwa)	C	—	48	48
		Potiskum	C	—	48	48
5. Ilorin ..	600,000	Ilorin	B	46	180	134
		Kaiama	C	—	60	60
		Offa	C	30	90	60
		Lafiagi	C	—	60	60
6. Kabba ..	500,000	Lokoja	B	43	110	67
		Idah	C	40	40	—
		Ayangba	C	—	48	48
		Kabba-Okene	C	—	48	48
7. Kano ..	2,500,000	Kano	A	332	480	148
		Hadejia	C	36	90	54
		Kazaure	C	—	90	90
		Gumel	C	—	90	90
		Birnin-Kudi	C	—	90	90
8. Katsina ..	1,000,000	Katsina	A	244	300	56
		Daura	C	—	60	60
		Malumfashi	C	—	90	90
9. Niger ..	500,000	Minna	B	34	114	80
		Bida	B	70	120	50
		Abuja	C	—	60	60
		Kontagora	C	—	60	60
		Zuru	C	—	60	60
10. Plateau ..	600,000	Jos	A	122	232	110
		B/Ladi	C	62	122	60
		Pankshin	C	62	92	30
		Kafanchan	C	62	92	30
		Wamba	C	—	60	60
		Shendam	C	—	60	60
11. Sokoto ..	2,000,000	Sokoto	A	116	360	244
		B/Kebbi	C	10	90	80
		Gusau	C	25	90	65
		Yelwa	C	—	60	60
		Ifa	C	—	60	60
12. Zaria ..	500,000	Zaria	B	155	175	20
		Kaduna	A	134	184	50
		Zonkwa	C	—	60	60
13. Abeokuta	500,000	Abeokuta	A	96	296	200
		Ilaro	C	1	90	90
14. Benin ..	500,000	Benin	B	35	120	85
		Asaba	C	—	60	60
		Ekpoma	C	—	60	60
		Agbor	C	29	59	30

SCHEDULE — *continued*

No.	*Province*	*Population (approx.)*	*Hospital Centres*	*Class of Hospital*	*Beds existing*	*Beds proposed*	*Increase*
15.	CALABAR . .	1,000,000	Calabar	A	132	222	90
			Eket	C	—	36	36
			Ikot-Ekpene	C	68	68	—
			Opobo	C	28	90	62
			Aro Chuku	C	—	36	36
			Ikot-Okoro	C	—	36	36
			Yighe	C	—	36	36
16.	CAMEROONS	400,000	Victoria	A	110	180	70
			Tiko	C	130	130	—
			Buea	C	5	5	—
			Mamfe	C	60	90	30
			Kumba	C	74	90	16
			Bamenda	B	110	110	—
			Banso	C	—	90	90
17.	IJEBU ODE	350,000	Ijebu-Ode	B	68	178	110
			Shagamu	C	—	60	60
18.	OGOJA . .	750,000	Ogoja	B	35	120	85
			Abakaliki	C	36	90	54
			Afikpo	C	—	60	60
			Obubra	C	31	61	30
19.	ONDO . .	500,000	Akure	B	41	120	79
			Ado-Ekiti	C	—	60	60
			Ondo	B	—	120	120
			Ikare	C	—	60	60
			Okitipupa	C	—	60	60
20.	ONITSHA	1,100,000	Onitsha	B	63	180	117
			Enugu	A	72	180	108
			Nsukka	C	—	60	60
			Ihiala	C	—	60	60
21.	OWERRI . .	1,600,000	Port Harcourt	A	130	210	80
			Aba	B	102	182	80
			Owerri	C	82	132	50
			Okigwi	C	76	120	44
			Umuahia	C	40	110	70
			Ahoada	C	—	60	60
			Degema	C	42	72	30
			Orlu	C	—	60	60
			Brass	C	—	36	36
22.	OYO . .	1,400,000	Ibadan	A	197	307	110
			Oyo	C	—	60	60
			Oshogbo	B	60	120	60
			Ife	C	—	60	60
			Iseyin	C	—	60	60
23.	WARRI . .	500,000	Warri	B	26	176	150
			Forcados	C	24	60	36
			Kwale (Obetim)	C	—	60	60
			Sapele	B	31	91	60
24.	LAGOS COLONY	350,000	Lagos	A	246	600	354
			Ikorodu	C	—	36	36
			Badagry	C	—	36	36
			Epe	C	—	36	36
	NIGERIA . .	21,050,000	13A 19B 80C	—	4,275	11,671	7,396

NOTE.—In several cases it would appear most desirable that the cramped sites of existing hospitals should be abandoned in favour of larger areas which will allow of reasonable expansion. For this purpose a further 561 beds should be added as being required, but this should be partially offset by 210 beds which are, at present, in course of construction for the reception of chronic ex-soldier invalids, as these will eventually become available for the general population. The total number of new beds required should therefore be shown as 7,747.

The Select Committee is of the opinion that the provision of Hospitals or Rural Health Centres for the Northern Provinces should be reconsidered as soon as possible, with a view to the ratio of population per hospital bed being brought more closely in line with that in the Southern Provinces.

APPENDIX VIII

LEPROSY CONTROL

1. The problem of leprosy in Nigeria is an immense one. It is generally admitted that there are at least 400,000 lepers in the country. The incidence of leprosy in large areas which have been carefully surveyed is as high as fifty to sixty per thousand of the population. Of these only about 6,000 are receiving treatment in leper colonies or asylums. With such total numbers of infected persons, the isolation of all lepers in institutions is not a practical proposition, and though isolation and segregation of all infectious cases is admittedly the ideal, it has been necessary to seek an approach to the problem which though less perfect in theory is more possible of achievement.

2. There is such diversity of social conditions and of enlightenment in Nigeria and, in consequence, of the attitude of the population towards leprosy, that a scheme of treatment and prevention suitable for one area cannot be applied equally and simultaneously to all the political or administrative divisions of the country, even if the means and the staff were available for such a complete organization.

3. The Government in 1936 had the benefit of a report upon Leprosy in Nigeria and the problems of its control, by Dr Ernest Muir, C.I.E., Medical Secretary of the British Empire Leprosy Relief Association. Since that time, in certain provinces of the country, a considerable amount of effort has been made to develop propaganda, treatment and control in accordance with the general principles outlined by Dr Muir. Provincial Leprosy Boards have been formed in these provinces to develop leprosy work on a provincial basis, while matters of general policy are dealt with by a Central Committee constituted as the Nigerian Executive Committee of the British Empire Leprosy Relief Association.

4. Apart from a few small leper homes, mainly supporting helpless and crippled cases, the management of leper settlements and the direction of both the medical and occupational activities connected with them, has been undertaken by various mission bodies. There is considerable variation in the method of sharing the cost of maintenance. In general however the settlement is regarded as a Native Administration institution operated by the mission, with the help of direct contributions from Native Administration funds and of grants from Government through the Nigerian Executive Committee of the British Empire Leprosy Relief Association. The mission participation is as a rule limited to the provision of the supervisory medical and lay staff but here again there is considerable variation: in some cases the mission shares as well in the general expenditure but in others contributes little more than the passage and leave expenses of the European personnel. Certain of the missions are assisted by lay staff supplied by the British Empire Leprosy Relief Association and the Toc H organization.

5. Since 1938 there has been very considerable development of leprosy work in certain provinces on these lines. The activities of leper settlement staff extend far beyond the boundaries of the settlement itself and there are so many administrative, medical and political problems involved, that the responsibility for the work can no longer properly be left wholly in the hands of unofficial organizations. There is need now in the more progressive provinces

for a division of activities leaving the mission organizations responsible for the social, educational and welfare activities which are so essential to the success of any leprosy work, while the Government and Native Administrations assume responsibility for the medical and preventive work together with the administration and management of the settlements, settlement industries, clinics, clan leper villages, etc. The position has now been reached in these provinces that the work has been expanded to the limits of the resources available and investigations and surveys of the population enable a clear picture to be obtained of what is still required to cope with the disease successfully. In the early stages much of the organization developed was on a tentative and experimental basis but its results are such and the co-operation of the people so satisfactory that, the time has come to place the organization on a permanent basis. The first essential is to provide suitable terms of service for the supervisory and technical medical staff, both European and African, in order to secure that continuity of knowledge and skill which is essential for a campaign which, on account of the disease against which it is directed, must be maintained for a considerable number of years.

6. The problem will best be tackled by applying in particular areas that stage of a progressive plan most suited to the state of advancement of the population and its attitude towards the disease and by directing effort principally towards those areas in which the disease is, and is recognised by the people to be, a serious social and public health problem. Concentration of effort and available resources will be more profitable than dispersal of staff and funds over a wide area. It is desirable therefore, to continue the policy of dealing with the disease on a provincial basis. Under this policy, the measures most suited for a province will be applied with a view to progressive development of control and treatment. These may be summarised as follows:—

(1) The establishment of settlements on a provincial basis, or the improvement and development of existing settlements.

(2) The prosecution of propaganda and education amongst the people to encourage (*i*) voluntary segregation by infected persons and effective continuance of treatment; (*ii*) provision of land by the communities for provincial settlements, daughter settlements, clan segregation villages and leprosy clinics and dispensaries; (*iii*) allocation of local funds within reasonable limits for the support and maintenance of these institutions; (*iv*) the provision of central Government funds to maintain and develop the framework of the general organization, to pay for the permanent medical staff required for preventive measures, for treatment, for supervision and the training of the subordinate staff of whom a large proportion may themselves be lepers, and for investigation and research.

7. A Five-Year Plan has been prepared under which a Government Leprosy Service will be established composed of:—

(*a*) A central leprosy unit composed of a Senior Leprosy Officer with a small staff whose duties will be:—

1. General supervision of all leprosy work.
2. Inspection of provincial leprosy activities and reports to the Director of Medical Services.
3. Organization of investigations and surveys in new areas.
4. Training of technical staff.
5. Preparation of plans for extension and development of a treatment and preventive service.
6. Research.

(*b*) A Provincial organization: This will be established as a Government service in collaboration with Native Administrations in certain provinces only in the first instance. The selected provinces will be those in which progress has reached the stage at which the full co-operation of the people and their Native Administrations is already assured. In other provinces leprosy work will continue on its present basis as a mission activity, but the object will be to bring those provinces within the scope of the Government scheme, as and when the ground has been fully prepared for such a change. The leprosy service will consist of (*a*) a permanent cadre of experienced medical officers, nursing sisters and Leprosy Control Officers on the usual terms of appointment and conditions of service of the Colonial Service; (*b*) a permanent cadre of nurses, dispensers, clerks, inspectors, subordinate personnel on approved Native Administration rates of pay and terms of appointment; (*c*) a temporary cadre of leper patient staff trained in the settlements for various technical duties, assistant nurses, clerks, clinic and dispensary attendants, ward servants, labourers, etc., paid at nominal rates in return for treatment.

8. The Provincial Leprosy work of the Leprosy Service will be based on the following institutions:—

(*i*) The Provincial Leprosy Settlement under the management of a Medical Officer who will be responsible to the Director of Medical Services through the Senior Leprosy Officer, for the direction and control of all leprosy work in the Province. In certain cases it will be necessary to establish one or more subsidiary settlements to meet the requirements of a province which may conveniently be called " daughter " settlements ".

(*ii*) Leprosy treatment clinics which will be centres of propaganda and at which cases classed as non infectious may be treated and kept under regular supervision. This naturally leads up to—

(*iii*) Clan segregation villages: site for the village and a land for agriculture provided free by the clan together with assistance in constructing houses and laying out the village. A treatment clinic will be established in the village with residential trained staff. Treatment will be directed and supervised by a visiting medical officer from the Central Settlement. Particular attention will be paid to the sanitation, hygiene and housing of such villages which will become examples and demonstrations of rural sanitary improvement which is so necessary in this country if the mass of preventible diseases which constitute such a burden to the social and economic life of the country is to be abated.

(*iv*) Homes for helpless and incurable lepers.

(*v*) Homes for new born uninfected children of leprous parents. At first these will be in association with the Provincial Settlement.

(*vi*) Home and school for uninfected children of leprous parents who have no relatives to maintain them. Institutions of this kind may for the time being be left to Mission organizations.

9. In provinces where the Government Leprosy Service is established there will still be the need for the collaboration and assistance of missions in social, educational and welfare activities, which are essential to maintain a spirit of contentment and hope amongst the patients, without which no Leprosy Scheme can be successful. The policy that will be followed will be, that where an organization has been primarily responsible for the Leprosy Work based on a Settlement, that organization will continue to be the

authority responsible for the social, educational and religious work amongst the lepers associated with the settlement and its ancillary institutions, it being understood that adequate facilities will be given by the responsible organization to other denominations or faiths, to attend to the spiritual and religious needs of those lepers who are their adherents.

10. The provinces in which leprosy work has advanced to a degree in which the Government should now assume direct responsibility for the service are Onitsha, Owerri and Benin. The need for consolidation of leprosy work already organised and established in these provinces is very urgent. The results of the work so far achieved indicate that it has been soundly developed, has obtained the support and confidence of the people and holds promise of a steady diminution of this dreadful disease within a reasonable space of time. The responsible missions have reached the limit of their capacity to cope with the work required. This has only been achieved by employment of personnel both European and African on exceedingly low rates of pay. The continuation of the work can no longer be allowed to depend upon the self-sacrifice and devotion of experienced and highly skilled individuals, whose services should now be placed on scales of remuneration which correspond to those in other branches of essential public services. Unless these changes are made it is certain that Nigeria will lose the services of those who have voluntarily done so much to bring the leprosy problem to a point at which there is prospect of adequate control. The people are pressing for additional treatment clinics and are freely offering land for additional clan segregation villages for which there is no supervisory staff available.

11. The plan envisages in addition to the provinces referred to in paragraph 9, the development of the service to embrace the western part of the Western Provinces after certain preliminary surveys and investigations have been made. The incidence of leprosy here is not so high as in the provinces which will first be dealt with by the proposed service. There is however a significant amount of disease and steps should be taken to replace several small and unsatisfactory homes for lepers by one Central Settlement with district treatment and preventive organization, at an early date. At a conference of chiefs of the Western Provinces held in July, 1943 the control of leprosy was a subject of lively interest and occupied in discussion the whole time of one session of the conference which was addressed by the Director of Medical Services and by Dr Money, the Honorary Adviser on Leprosy Control to the Government. The co-operation of the public and the Native Authority can therefore be assured, and an organised propaganda treatment and preventive service in this less heavily infected area, holds promise of stamping out the disease in a population of over 3,000,000 inhabitants within a relatively short space of time. The five-year plan does not envisage development of the preventive service in Northern Provinces, not because leprosy does not present a serious problem in the North but because it will be necessary for a considerable amount of preparatory work to be undertaken before heavy financial commitments are justified in attempting more effectively to suppress the disease*. It is more advisable at the initiation of a campaign of this nature to concentrate all available resources, (of which

* It is essential in all places, before the Medical Department can commence treatment and preventative measures, that the people in the area concerned should show positive evidence that they will co-operate wholeheartedly in the measures required to be undertaken and that they will provide the necessary farming land where infective leper cases may support themselves in segregated villages. It will be necessary for a closer understanding of these requirements before any wide expansion of leprosy control can be undertaken in the North.

trained staff is perhaps the most important), in areas where the disease is most prevalent, or where a diminution of the disease is most likely to become rapidly apparent. Success in these areas will prove the most efficient of all propaganda, and will provide opportunity for training of staff for the extension of the campaign to other groups of the population.

12. The total over-all cost of the Plan for the Five-Year Period amounts to £453,870. The proposals only cover a portion of the Southern Provinces, but the disease is known to be acute in other places in the south and in many parts of the north. It is proposed, therefore, at a later stage, to provide additional units and settlements in other parts of the south, notably at Calabar, Ogoja Province and in the southern Cameroons and in certain portions of the Northern Provinces. The form of establishments which will be created will depend to a large extent on the experience gained from the units and settlements to be provided under the original scheme, combined with any new discoveries which may be made in the meantime. For these reasons the cost of further expansion at a later date, both for capital and recurrent charges, must necessarily remain indefinite. It has, therefore, been considered advisable to plan for a five-year period only and to review the situation towards the end of that period. It is safe to assume however, that the expenditure over the second five years will be at least £500,000 if the original work is to be maintained and extensions provided in other infected areas.

The Select Committee recommends that, as early as possible, Leprosy Control should be extended into the Northern Provinces and that surveys should take place with a view to the preparation of a suitable scheme for those parts of the Northern Provinces where it is found that people are ready for such action and will co-operate with the Medical Department in the proper and comprehensive treatment and prevention of the disease.

APPENDIX IX

EDUCATION

Summary of a Scheme prepared by T. BALDWIN, *Acting Director of Education*, based on the memorandum of policy drawn by R. A. McL. DAVIDSON, *Director of Education*

The scheme on which this summary is based is still under consideration by the Secretary of State's Advisory Committee on Education. It is possible therefore that some modifications may be called for before it is finally approved.

The large territory of Nigeria is considerably backward in the provision of educational facilities and the question of the general policy to be adopted in the development of such services has been under consideration for several years.

2. The over-all Nigeria Development Plan has as one of its objectives the expansion of most Departmental services which will, in due course, be increasingly manned by African staff. This, however, cannot be accomplished without larger and better facilities for secondary education so that there will be properly qualified candidates in adequate numbers to take advantage of the higher educational facilities to be offered at the West African University College. A larger supply of well-educated personnel will also be needed, of matriculation standard, to fill the intermediate positions in the Departments concerned.

3. The ideal development would be the simultaneous expansion of educational facilities at all levels, but this will not be feasible, because, until secondary education and teacher training has been extended, there will be insufficient teachers available for the extension of primary education. The early improvement and expansion of secondary education will also be necessary in order that there may be a sufficient supply of students trained to the intermediate standard who can take advantage of the post-intermediate Secondary Teachers' Course and finally become secondary teachers in the new or expanded schools as time goes on.

4. It is clear that any practical Development Plan for the Education Department must be closely related to the plans of other Departments; until the country's schools can produce a sufficient number of well-educated Africans no general scheme of development can be carried out. By a " well-educated African ", in this case, is meant one who is capable of filling a post now normally held by a European, and, in terms of a general education this means men and women who reach a standard equivalent to that of Intermediate Arts or Science. A specialist or professional education, with the one exception of Teacher Training, the Education Department as it now is cannot offer; this must be done by the Universities or the respective Departmental Schools. The immediate and urgent task of the Education Department, therefore, is to produce the largest possible number of Africans with the equivalent of a good " sixth form " standard in Britain.

5. Simultaneously, if the output of the schools is to be maintained and extended, the Education Department must attend to its own professional task, the training of teachers. Efficient Training Centres, as well as efficient Secondary Schools, are priorities viewed from the standpoint of general Development.

6. Now Secondary Schools and Training Centres, if they are to be efficient, must have adequate staffs and buildings, commodities that may be very difficult to obtain during the next three or four years. The extra staff must be mainly European since there are few Africans—and this is especially true of the women—who have the requisite competence. This staff will be costly but should be regarded as "capital", since its main purpose will be to produce the *African* staff that will eventually replace it. It may be preferable, therefore, to appoint men and women "on agreement" rather than as permanent members of the Service.

7. To achieve these objects, the Plan, which has not yet received the approval of the Secretary of State, provides for the expansion of:—

(*a*) The Higher College, Yaba;

(*b*) Three existing Boys' Secondary Schools at Umuahia, Ibadan, and King's College;

(*c*) Four men's Training Centres at Bauchi, Toro, Ibadan, and Uyo.

(*d*) One Women's Training Centre at Sokoto.

together with the following new institutions, the sites of which have not yet been finally determined,

(*a*) Four Boys' Secondary Schools;

(*b*) Two Girls' Secondary Schools;

(*c*) One Secondary Teachers' Training College;

(*d*) Three Men's Training Centres to take 200 students each;

(*e*) Eight Training Centres to take 50 students each;

(*f*) Three Training Centres to take 75 students each;

(*g*) Four Women's Training Centres to take 75 students each;

(*h*) Two Women's Training Centres to take 200 students each; and

(*i*) Four Rural Education Centres.

The overall cost of the foregoing, exclusive of buildings to the value of £2,088,600, is £1,758,700.

8. Government cannot, however, directly and solely undertake the amount of secondary schooling and teacher training which the country requires. The chief educational agencies hitherto have been the Voluntary Societies and Government must continue to rely on their help. It goes without saying that these Societies, in order to work efficiently, require adequate staff and buildings no less than does the Education Department, and they require these things in greater measure at a time when their resources, at least in so far as they depend on funds from Europe, are likely to be straitened. Government must be prepared, therefore, to assist them on a more liberal scale than in the past. The question remains whether the Societies will be ready to accept an increased assistance which will involve, as a corollary, a larger measure of Government control.

9. The plan therefore provides for an average capital grant of £30,000 in respect of buildings to each of some twenty-two existing Secondary Schools. This sum should enable the Voluntary Societies to improve buildings and equipment sufficiently to bring their schools up to the required degree of efficiency. Above all it is laboratory accommodation and equipment which is required.

10. Next comes the question of staff. It is unlikely that the Societies, probably with straitened resources, will be able unaided to acquire European staff of adequate calibre in sufficient numbers. It is proposed, therefore, that Government should pay, in respect of

each selected school, for four European teachers at Government rates of salary. These are average figures which assume a "type" school of 300 pupils. It is estimated that a total of eighty-eight Europeans would be required during the decade.

11. Similar considerations arise in regard to the training of teachers. The Department will undertake a certain amount of it and, with the general consent of the Societies, will at present be entirely responsible for training secondary teachers. The report of the Elliot Commission is much concerned with this matter which is so pressing that immediate steps must be taken to expand the present output of teachers pending the implementation of the Commission's recommendations. A training centre for secondary teachers, therefore, is among the first priorities. The training of primary teachers can be shared by Government and the Societies, and, once more, efficient buildings and staff are the crying needs. It is therefore proposed to give £40,000 for each Selected Centre of the large type and £10,000 for each of the small type. As regards staff it is proposed that Government should pay for the salaries of five Europeans in a large centre and of two in a small one, giving a total of eighty staff for thirty-four centres during the ten years. No allowance has been made for extra direct grants to primary schools. There are limits to what Government can do and there seems little doubt that it can make the most efficient use of its grants by concentrating them on training centres rather than by spreading them amongst the schools. Moreover, the building and maintenance of primary schools is a matter that very much interests the local communities, religious or otherwise, and a matter with which they should be reasonably competent to deal. It is not suggested that additional direct grants to schools shall be ruled out—much depends on Government resources—but they have been excluded as not being an essential part of the Development plan. Again, no provision has been made for grants to Native Authorities. While Government has accepted the principle of assisting these Authorities to provide education it has so far not decided on the most appropriate method of doing so. There is more than one way of assistance and, so far, Government has not favoured the method of a direct grant. The total overall cost of the assistance to Voluntary Societies is £2,150,040.

12. A sum of £250,000 has been estimated for "non-institutional education". This is designed to cover the salaries of a number of officers for "Mass Education", Social Service and Literature Bureaux. It is still not clear whether, or to what extent, such officers will be associated with the Education Department and so it is not considered possible to make a detailed estimate. Figures in detail can be given when Government policy on these matters takes firmer shape. Meanwhile no financial provision has been made in the present plan.

13. From all the Secondary Schools it is expected that there will be 8,500 school certificate passes during the decade. If this appears to be an unduly small total it must be remembered that the schools will have to be expanded gradually, beginning at the lowest level. Of these passes it is estimated that about 750 will eventually pass the standard of Intermediate Arts and Science and be fit for higher education. From the standpoint of general Development this figure is the crucial one. During the same period it is estimated that about 350 Secondary Teachers and about 14,500 Primary Teachers may be produced. These figures, with one significant exception, are optimistic for they take no account of "wastage", which is found from experience to be very considerable, especially among

the women. And wastage, of course, occurs not only during training but afterwards, a fact that makes it almost impossible to estimate. Obviously it will be greatest over the widest area so the most optimistic figure is that given for Primary Teachers. The " significant exception " is the figure given for the Intermediates. 750. This is deliberately conservative as, for reasons already given, it is the crucial figure and it is safest not to be optimistic here. Nevertheless one may hope that with thoroughly efficient staffs a somewhat higher percentage of the School Certificate passes will be found fit for further progress. A number of the 350 Secondary Teachers should be available, before the end of the decade, to relieve Europeans. Nevertheless this factor has been ignored in the hope that the revenues of the country will be by that time sufficient to bear a further expansion of Secondary education.

14. The estimated total cost of this Ten-Year Plan is £5,997,340. Of this sum it is proposed that £3,268,600, being the cost of buildings, should be found from the Development Loan; of the remaining £2,728,740, it is hoped that some assistance will be forthcoming from the Colonial Development and Welfare Vote. Details of the estimated expenditure of the present proposals will be found in Table VII; the cost of the Government buildings is given in Table XVI.

The Select Committee agrees with the fundamental proposals contained in this General Education scheme and recommends its acceptance subject to any amendments required by the Secretary of State, provided that, if such amendments call for any major change in the scheme, it should be referred back to the Committee.

The Select Committee wishes to emphasize the need for adequate provision of grants-in-aid to primary schools to ensure that there is a sufficient supply of scholars to fill the proposed secondary schools and teacher training centres.

It also recommends that financial assistance should be provided to Native Administrations for the extension of primary and secondary education where there are inadequate educational facilities.

APPENDIX X

TECHNICAL EDUCATION

Summary of a Scheme prepared by W. H. THORP, *Acting Assistant Director of Education* (Technical) and J. HOSKINS, *Acting Chief Inspector*

Technical education and vocational training have been seriously neglected in Nigeria, and as a result Nigerian society has become completely unbalanced. It has unskilled labourers, and some semi-skilled operatives; it also has professional men and clerks, but it lacks the intermediate category of self-respecting artizans which is to be found in every highly developed country. The future efficiency and development of the country very largely depend upon an adequate supply of artizans and technicians. These will be required in the first instance in connection with the general development programme, and subsequently for the general improvement of the country. Therefore adequate training facilities for the supply of this type of individual is one of the first necessities for the proper development of the country and the general up-lift of its people. These reasons, and the fact that the subject has so long been neglected, make it very suitable for assistance under the Colonial Development and Welfare Act and a grant has been made towards the cost for the first four years with the possibility of further assistance later.

2. A nominal Ten-Year Plan for the development of technical education has been prepared, after consultation with all of the Government Departments concerned as well as representatives of commercial interests. This Plan calls for the training of high grade artizans in well-equipped trade centres located throughout the country in such a fashion as to give the maximum benefit to the whole of the population. It also covers further training for selected artizans in technical institutes, as well as handicraft centres for the training of school children so that they may appreciate craftsmanship and be able to use their hands properly. For youths already employed in various forms of industry, the technical institute will also provide continuation classes, and in some instances where employers are prepared to release them, short full time courses will be provided at the trade centres.

3. It is proposed that three Trades Centres be established one each in Yaba, Enugu and Zaria or Kaduna. These Trade Centres, when fully developed, will provide training for 416 apprentices at a time. Apprentices in these Trade Centres will have to submit to industrial conditions of work. Training will be in production of articles for the open market. Competition with organized industry will be small and most of the contracts will be those which an industrial organization dislikes. For instructional purposes orders for small numbers of articles involving testing and modification will be preferred to straightforward series production. Such orders do not make profits but they will give ideal training. Tradesmen leaving the Trade Centres will be placed on the open labour market and will be available for employment in private enterprise and in Government Departments. None of the trainees will be specially allocated on entering the Trade Centre.

4. Apprentices will be accepted from Class II Middle or Higher and their training will continue for five years. During these years

they will receive a post-primary practical education of as much cultural value as the School Certificate course and demanding at least as much intelligence and application. There will be apprentices in the building trades, in mechanical, motor and electrical engineering, and in sheet metal working, smithing, plumbing and welding. Pride of place will be given to the building and kindred trades which have been estimated to employ two-thirds of the paid labour of the country.

5. For some years instruction will be entirely by Europeans. Craftsmen of the highest class cannot be found among Nigerians and the whole scheme would fail if an inferior standard were accepted. In the course of time products of the Trade Centres will come back as instructors but this will not happen during the period under review. In England instructors are expected to have had about ten years industrial experience, and if a similar standard is imposed in Nigeria we cannot expect our apprentices to re-appear in the guise of instructors for another fifteen years.

6. The total overall cost of these centres, excluding buildings to the value of £177,028, will amount to £380,106.

7. It is proposed that a complete Technical Institute shall be allowed to grow up alongside the Trade Centre at Yaba, which will provide the theoretical training for apprentices of all types whether they received preliminary training at the Trade Centres or in Government Departments or industrial concerns. This Institute will house approximately 250 residential students with additional accommodation for London Intermediate students. It will also give classes to from 1,000 to 1,500 external students. At a later stage Technical Institutes will probably be developed at Enugu and at the Northern Provinces centre. The Yaba Technical Institute will also take over all the activities of the present Higher College.

8. It is intended that the Yaba Technical Institute will approach complete development during the ten-year period. The Eastern and Northern Institutes will develop on similar lines but will not be on so ambitious a scale during the period under review. A description of the Yaba Technical Institute is given to indicate the type of College proposed.

9. The main object of the College will be to provide full time classes and part-time continuation classes in those subjects required by the industries of the country. Fees will be charged for attendance during the College Sessions and provision will have to be made for residential students from the more distant parts of the country. The College will have a permanent staff for the teaching of subjects with an established future. Other courses will be introduced in accordance with the demands of students working in or preparing to enter local industry. As much use as possible will be made of part-time Instructors drawn from the ranks of industry and the professions. Such a policy allows small scale projects to be operated economically and also infuses vital spirit into the Institution while keeping it in touch with the industrial world.

10. The Technical College is sited adjacent to the workshops of the Trade Centre. These workshops will work under industrial conditions and will be available for the practical instruction of the Technical Institute students. A more important consideration is that the workshops will affect the whole outlook of the College and will prevent that institution from becoming purely academic in character. The Technical Institute will help the Trade Centre by providing designs and drawings for the contracts undertaken by the Centre.

11. The Technical Institute will provide courses in the building rades, civil, mechanical and electrical engineering, telecommuni-ations and radio, the printing trade and other local trades such as ailoring, shoemaking, etc. It will also take over the commitments f the Yaba Higher College and will initiate courses which will ventually be taken over by the Territorial or University College. he total cost of this Institute, over the ten-year period, excluding ne cost of buildings estimated at £110,941, will be £313,259.

12. The Trades Centres mentioned in paragraph 3 are for train-ng in crafts connected with ' European ' industries. Another class f craft training is, however, necessary in addition. School children equire training in crafts in order to balance their general education nd to develop a critical sense of quality. At the moment the chools produce pupils ' without hands ' and without ability to isualize ' in the solid '. These pupils have an external comparison tandard in the case of academic education but in crafts and their roducts they are unable to appreciate the need for well executed ork and require development of their critical sense of design and ecoration.

13. It is therefore proposed to establish Handicraft Centres in all rovinces. These Handicraft Centres will be large enough to give ractical training to the senior pupils of all local primary schools. hey will be staffed by African instructors trained in the Handicraft nstructors' Training Centre which will have 104 trainees in esidence. The course in the latter institution will cover a period of ve years so that no Handicraft Centres can, in fact, be opened for t least five years after the start of the Training Centre Classes.

14. The Handicraft Training Centre exclusive of buildings to the alue of £19,673, will cost £102,760, while the Handicraft Centres ill cost £108,285, exclusive of buildings estimated at £101,478.

15. In addition to the expenditure on Trade Centres the echnical Institute, the Handicraft Instruction Training Centre, nd the Handicraft Centres, explained in the preceding paragraphs, ne sum of £211,043 plus £11,880 for buildings, is provided to cover eadquarters expenditure including passages.

16. In order that there should be no delay in starting work on ne Plan the sum of £48,900, plus £9,000 for buildings, was provided n 1945-46, which expenditure is excluded from the Ten-Year Plan.

17. The total over-all cost of the ten-year plan is £1,536,453, of hich £421,000 is in respect of buildings. The details of xpenditure on buildings will be found in Table XVI and the other xpenditure in connection with Technical Education is given in able VIII.

APPENDIX XI

HAUSA LITERATURE BUREAU AND THE GASKIYA CORPORATION

1. In 1930 there was established, as part of the Education Department of the Northern Provinces, a Translation Bureau, the object of which was to translate text books into Hausa for the Native Authority schools which wanted them. In 1933 the scope of that office was slightly enlarged. It took over the publishing and distribution of all books in the vernacular required by the Education Department of the Northern Provinces. In 1934-35 came the first attempts at making an indigenous literature for the Northern Provinces, and in those years there were published several novelettes written by educated young men of the Northern Provinces. In 1935 the title of the office was changed to " The Literature Bureau " with the idea of denoting more clearly the aim and object of the Bureau, which was to establish an indigenous literature amongst the people of the Northern Provinces. Outside the Bureau, during these years, a news sheet in the vernacular was published in the Secretariat of the Northern Provinces. It was published very irregularly; it had no special editor; the news was collected by an Assistant Secretary in the office, and it depended very much on how much time he could spare from his ordinary duties as to when the paper appeared and how big it was. Publication was carried on until 1937, when its dates of issue became so irregular that it stopped altogether.

2. It was not long after the news sheet had been discontinued before the Chiefs and the people in the Northern Provinces asked for the publication to be resuscitated; the demand became more and more insistent and eventually, in January, 1939, an officer was detached from the Administrative Service and stationed at Zaria to publish a newspaper—a news sheet—working under the general supervision of the Officer-in-Charge of the Literature Bureau. The Director of Education gave the Administrative Officer accommodation there and put at the paper's disposal the resources of the Literature Bureau, including the supervision of the paper and the time of an Education Officer. So began the newspaper which is now known as " Gaskiya ta fi Kwabo ".

3. Although the Bureau was started by the Education Department primarily to fill the need for text-books in Hausa, it has been unable, owing to the volume of other work, to satisfy this need. Education Officers and Mistresses are continually asking for more books, and as the number of schools has increased, and the elementary syllabus has been enlarged, the demand has become more insistent. There are now about 11,000 pupils in Native Administration Schools receiving their education in Hausa, about 18,000 in Mission Schools, and a large but unknown number learning to read and write in adult classes or on their own initiative. The full elementary course in the vernacular is four years, and may soon be five years. For this, a fair number of general readers and teachers' books has been produced, but there are as yet no satisfactory pupils' text-books for the learning of Nature Study, Health, History and Geography, etc., nor for crafts and technical subjects. There is every prospect that elementary education in the Northern Provinces will take a big step forward in the next few years which will bring an even more urgent demand for books, and it is essential that a start should be made to prepare at least the machinery to meet it.

4. As for general literature, the position here is even less satisfactory. With the exception of the five novelettes mentioned above, which are now out of print, no books have been produced for sale to the general public. A boy who has completed the elementary course has therefore read all the permanent literature there is in Hausa, with the exception of Missionary publications which are not for the Moslem majority, and expensive volumes of folk lore etc., which are beyond the reach of the African public. He has spent four years acquiring literacy but cannot find the material with which to continue its practice. Consequently many relapse into what is, for all practical purposes, a state of illiteracy within a few years after leaving school.

5. The work which needs to be done in the immediate future can be divided into three parts:—

(*a*) Preparation of vernacular text-books for schools;

(*b*) Preparation of general vernacular literature for post-school reading.

(*c*) Publication of a vernacular newspaper.

It was, as will be appreciated, largely by chance that all of these activities, the production of school books and of post-school literature, and the production of a newspaper came to be under one control. But having come under one control there is one over-mastering reason why they should remain under one control. That is the imperative necessity to stabilize the orthography of the Hausa language. Until the writing of the Hausa language becomes uniform and a recognized form for style and orthography has been established, the publication of books and papers by numerous independent agencies would cause confusion which might take generations to correct. In addition it is of the utmost importance to inculcate into the general literate public the habit of reading, and, if possible, of paying for its reading matter. For this purpose, it is not of great importance whether what they read is of permanent value, so long as they grow accustomed from the beginning to the example of a good literary style and faultless orthography, which they will follow when they start to write themselves.

6. Effectively to achieve these objects it was considered desirable that the Literature Bureau should be given a more permanent form of organization. The Gaskiya Corporation has therefore been formed with the following objects:—

(1) to expand the work being carried out by the Literature Bureau so as to produce the vernacular literature which will be required in connection with the expansion of education in the Northern Provinces.

(2) to provide adequate supplies of general vernacular literature for post-school reading, particularly in connection with the spread of mass literacy;

(3) to establish a responsible vernacular newspaper for the Northern Provinces.

The activities of the Corporation will be directed by a Board of Control, consisting of not less than five or more than nine members, including a Chairman. Dr R. M. East, who was in charge of the original Literature Bureau and whose linguistic qualifications are outstanding, has been appointed Chairman. The original members of the Board will be appointed by the Governor, but thereafter on the death or resignation of any member the Board will have power to elect a successor.

7. If the work of the Corporation is successful in supplying the needs of the Hausa speaking population, the question of establishing

Bureaux for similar publications in other dialects will be considered at a later date.

8. Since the expansion of education and the spread of literacy, which are impossible without the provision of adequate supplies of reading material in the vernacular, are an essential part of development and welfare, the scheme was singularly appropriate for assistance under the Colonial Development and Welfare Act, and a grant has been received from that source. This grant is composed of £107,350 for the purchase of printing machinery and equipment and for buildings; £11,200 to defray preliminary expenditure during 1945-46; and £45,000 to cover the anticipated deficits on the working account for the first three years. In addition, over the four years £10,000 will be contributed from Nigerian funds. Furthermore, to provide working capital requirements for the first three years of active production a loan of £25,000 free of interest for the first three years and thereafter subject to revision, is being made from the Colonial Development and Welfare Vote. It is the intention that the Corporation should assume full financial responsibility without assistance from the Colonial Development and Welfare Vote at the earliest possible moment.

9. Details of expenditure during the four years ending 1948-49, are shown in Table IX.

APPENDIX XII

TEN-YEAR DEVELOPMENT PLAN FOR THE AGRICULTURAL DEPARTMENT

Summary of Proposals prepared by A. G. BEATTIE, *Director of Agriculture*

1. Development of the Agricultural resources of Nigeria on an adequate scale has been limited hitherto by insufficient numbers of staff to provide for the needs of its twenty-two millions of people. The Agricultural Department of Government has been expanded gradually over a period of twenty-five years, during which it has endeavoured to keep pace with the political growth and economic needs of the people. At the end of this time the Department finds itself with a force of only sixty fully trained officers in the general section, which includes ten specialist officers engaged in various lines of research. Incidence of health leave results in there being only some forty or fifty-five officers present in the territory at a given time. Thus there exist only about two officers per million of population, and of these a number are not field officers. There are of necessity some provinces for which it has not been possible to provide even one agricultural officer. One important province of more than one and a half millions is staffed with one agricultural officer. It has been recognized that the social and political advancement of the people is necessarily bound up with and dependent upon improvements in agricultural practice.

2. Plans for future development include measures for the expansion of the Agricultural Department It is proposed that these measures should enable the Department to extend its work on an adequate scale to all provinces, and that the organization should fit in suitably to the administrative structure.

3. Territorially the country is divided into the Northern, Western and Eastern administrative areas, but to enable the Department to deal satisfactorily with the vast territory of the Northern Provinces, it is proposed that there shall eventually be an Agricultural headquarters for the eastern half of that area.

4. The work of the Department can be divided into three main sections, for purposes of administration and estimate, though all sections are inseparably bound up with each other and are interdependent. These are

(1) General agriculture including research.
(2) Produce inspection.
(3) Agricultural training.

5. In addition to this special research schemes have been started and are in course of development, namely the Oil Palm Research Scheme, and a Rice Research Scheme coupled with plans for the development of irrigation.

6. Proposals covered by the attached estimates envisage extension of the activities of the Agricultural Department, on lines indicated in the following paragraphs, relating to specific areas. Full details of the programme will necessarily be subject to modification in the light of experience, but this gives the broad lines of present intention. The estimates provide for gradual expansion over the whole period.

(*a*) *Western Provinces.*

(1) Acquisition of additional land and the erection of suitable buildings at Moor Plantation—Ibadan.

(2) Expansion of the Ilorin Stock Farm and improvement of the water supply.
(3) Establishment of a Cattle Multiplication Farm.
(4) Purchase of N'dama cattle.
(5) Establishment of a Poultry Farm and development of the turkey trade.
(6) Establishment of dairies at important towns.
(7) Distribution of seedling trees.
(8) Increased Cocoa research and Cocoa extension work.
(9) Work with rubber.
(10) Botanical investigation with Cotton, Tobacco and Chillies and with food crops
(11) Establishment of Farm Schools.
(12) Testing of machinery.
(13) Establishment of a government owned plantation of permanent crops.

(*b*) *Eastern Provinces.*

(1) Provision of a new headquarters and Central Research Station
(2) Provision of a new Stock Farm.
(3) Experiment with, and provision of artificial manures for the Eastern Provinces.
(4) Increased extension work with Oil Palms.
(5) Soil conservation work.
(6) Provision for a trained Economist.
(7) Swamp reclamation.
(8) Extension work with Rice.
(9) Nipah Palm investigation.

(*c*) *Northern Provinces (Western division).*

(1) Increased office, laboratory and housing accommodation at Samaru.
(2) New school buildings at Samaru.
(3) Provision of a Statistician and Geneticist.
(4) Provision of Cattle Multiplication Farms at Bokkos and Daudawa.
(5) Testing of machinery and artificial manures.
(6) Development of Soil Conservation and Irrigation.
(7) Establishment of an export trade in onions.
(8) Provision of sugar mills.
(9) Land Settlement.
(10) Farm Schools.

(*d*) *Northern Provinces (Eastern Division).*

(1) New headquarters for the Assistant Director of Agriculture and his staff at Darazzo—laboratories, farm buildings, and quarters.
(2) Provision for an entomologist and chemist.
(3) Provision of an experimental farm at Maiduguri.
(4) Water control work in the Firki area.
(5) Provision of a Stock Farm in Southern Bornu, and headquarters for the Agricultural Office.
(6) Headquarters for an agricultural officer at Nguru or Geidam, and for one in the Gashaka area of Adamawa Province.
(7) Development of the date industry.
(8) Provision of a school for junior staff at Bauchi.
(9) Anti-erosion measures in the Plateau Province.
(10) Extension of potato and vegetable industries.
(11) Provision of a poultry breeding station.

Staff.

7. It is appreciated that the provision of fully trained staff will present difficulties in the earlier years of the scheme, and to enable it to go forward, provision has been made for the employment of a number of officers of diploma standard, designated in the estimate as Agricultural Superintendents. In addition it is understood that there may become available a number of officers who have obtained Agricultural degrees but who have received no post-graduate training.

8. It is proposed to employ a number of these on the understanding that they be given facilities for completion of their training when the staff position improves.

9. Both these and the officers of diploma standard will be given local training in Nigeria, designed to fit them for the tasks upon which they are to be immediately employed.

10. It is the aim of the Department to Africanize the posts for which many of the Europeans must be recruited now, and this will be done as suitable candidates are trained. The programme for the training of African staff is largely dependent upon the outcome of Higher Educational policy now under consideration, and mention has been made in the estimates of the probable cost of a suitable Agricultural College, apart from provision of facilities for extension of the present programme for the training of junior staff.

Training and Research.

11. Provision has been made in the plan for close co-ordination of training and research to ensure that the results of research work by specialist officers is made use of as early as possible in the training of subordinate staff. This is a particularly important measure, for the success of the plan is largely dependent upon the intensity of the training provided for African staff. Agricultural schools exist now at Ibadan and Samaru, and these are already in course of expansion. Provision has been made in the plan for recruitment of a sufficient number of qualified students as they become available to enable the schools to operate at full capacity.

Cattle Multiplication Farms

12. Provision has been made for two stock farms, and three cattle multiplication farms. The work at these farms will be carried out in close collaboration with the Veterinary Department and its plans for livestock improvement. The programme to be undertaken will aim at placing improved livestock in the hands of all farmers who are able and willing to give them adequate care and attention. Two livestock breeding farms are already in existence, one at Ilorin and one at Shika. These have given valuable experience upon which to base a programme of expansion. They have shown that remarkable improvements can be made with West African breeds when they are properly fed and cared for and when selected animals are used for breeding. The strains of stock already developed at these stations should provide a valuable foundation for the expansion of this work. The demand by farmers for selected animals for work and milk already far exceeds the supply.

13. A plan of this description can only be prepared on general lines and the actual accomplishment of the work will depend upon many factors including the rate at which staff becomes available and the speed with which results are obtained from the various experiments. Consequently, although general estimates have been prepared to cover the cost of this ten-year plan, actual details will have to be worked out from year to year

14. It is contemplated that a total of 110 specialists and other trained staff, including African staff trained locally or abroad, will be required and over the ten years this staff will cost—including allowances and passages—approximately £500,000. A substantial number of clerical and technical African staff will also be required, amounting to between 940 to 950 individuals when the work is at its peak. The cost for this staff over the ten years is estimated at approximately £540,000.

15. The extension and activities of the Agricultural schools will amount to £35,000 during this period, while the recurrent costs in connection with the development, experimental and extension work is estimated at £555,000 during the period.

16. The extension of produce inspection during the ten years will cost £191,000 but this item is expected to be largely self-balancing as the result of fees charged for produce inspected.

17. The total cost will, therefore, be of the order of £1,824,000, approximate details of which are summarized year by year in Table X. In addition it is expected that buildings, including residential accommodation for officers and the extension of farms, will amount to £465,000 during the ten-year period but this item of expenditure is shown in connection with the Development Building Programme and in Table XVI.

18. In order to ensure that credit facilities will be available to farmers under the supervision of the Department of Agriculture it is intended that consideration will be given to the provision of funds for such purposes through Native Administrations from the proposed Nigeria Local Development Board.

APPENDIX XIII

TEN-YEAR DEVELOPMENT PLAN FOR VETERINARY DEPARTMENT

Summary of proposals prepared by R. J. SIMMONS, C.B.E., *Director of Veterinary Services*

INTRODUCTION

During the past two decades there has been a slow but steady trend throughout Africa towards a more settled form of existence and a gradual curtailing of old standing migrations to and fro with the seasons.

2. At the same time there has been a welcome change in outlook on stock ownership. In the past, in many parts of Africa, the possession of cattle in any numbers was a jealously guarded prerogative of certain tribes, who scorned the more arduous tasks of land cultivation, preferring instead to wander with their herds, untrammelled across the countryside, pursuing water and grazing, and moving, in many instances, over vast areas throughout the year.

3. Today the small land owner, or the peasant farmer, has crept into the stock-owning class, albeit in a small way as yet, but there is no reason why, with encouragement, he should not extend his efforts, and, eventually in many areas, oust the nomadic herds which do little or nothing towards conserving or improving soil fertility.

4. In the march of progress there can be no permanent place in modern African economy for purely nomadic peoples who use land and water merely to their own advantage, conferring little or no benefit in return. Already fortunately, there are signs that the Fulani are tending to adopt more settled customs. This must be encouraged, land allocated to the more progressive individuals, and, in due course, limits set to the uncontrolled movement of stock throughout the country.

5. Within recent times, especially during the recent war years, the impact of civilization has reached many of the more remote areas, and it is obvious that the opening up of new roads, as envisaged under development schemes, and the consequent improvement of transport facilities within backward areas, will accelerate the change-over to more modern concepts.

6. It is therefore the duty of the Veterinary Department to assist, in every way possible, the African stock-owner in his uphill task; to endeavour to suppress, or when possible eradicate, the more serious epizootic diseases which take their annual toll of the stock of the country; to improve the type of stock to an extent compatible with the natural feeding resources or any adverse climatic conditions; to promote the production and sale of stock and stock products, and to improve animal management methods in general.

7. These activities should be planned so as to give the African a sense of security of possession, enable him to appreciate the monetary value of his stock, and demonstrate to him the important part livestock, properly managed, should play in the economy and general well-being of his country.

POLICY

8. Although the following schemes are necessarily grouped under the heading of development, it should be appreciated that much of the work envisaged is not revolutionary in character. It is but an acceleration of the general advance being made from day to day by veterinary science in Africa, an advance which has been, at times, so slow, although steady, as to be barely appreciable to the onlooker. Nevertheless, the foundations have been laid so surely that it is now considered feasible, with the aid of increased funds, and staff, to launch out on a grander scale and so ensure quicker results and an earlier prosperity to the stock industry in general.

9. It is obvious that much of the work will be of a highly technical nature, requiring, especially in the earlier stages, the services of qualified staff. Unfortunately, the possibility of obtaining adequate trained staff for the complete carrying out of these duties is, for the present at least, very remote, and a via media must therefore be sought. It is proposed, therefore, to utilize for most of the preliminary ground work, district or provincial veterinary officers, who are already skilled in dealing with local problems, aided by any professional staff which may arrive meanwhile from home to fill vacancies already existing on the permanent establishment. Subsequently the practical work in the field, or in the camps, will be carried out by development officers who will be, if at all possible, holders of the Diploma of the National Dairying Institute, and who, in addition, will receive a short course in tropical disease control measures, at Vom Veterinary School.

10. The school itself will intensify its training activities and will collaborate much more closely with the laboratory. Strong efforts will be made to increase the knowledge and improve the skill of the existing African staff in the field through "post graduate" courses and a special curriculum will be drawn up for new entrants so as to ensure the turning out, in as short a time as possible, of an adequate amount of trained African staff, of the intermediate type, for work in the field on development schemes until such time as there is a freer and fuller flow of highly trained graduates.

11. It is intended that research officers from the laboratory should assist the staff of the school by teaching and demonstrating in their own special subjects and, in reverse, that the educational officers should carry out general research work in the laboratory so ensuring that the knowledge and experience of both classes of officers should be passed on to their students.

12. In all schemes or plans for the development and improvement of existing livestock, or in the introduction of exotic breeds, it is obvious that there must be free and cordial co-operation and collaboration between the Agricultural and Veterinary Departments, so as to ensure a mutual appreciation of each other's problems and aims, and the evolution of a policy which will produce stock and a system of stock management, best suited to African climatic conditions and African economy.

13. The basis of such co-operation has already been arranged, to the mutual satisfaction of both Departments, and the staff, headquarters and field alike, are even now working in close collaboration on plans for the future.

14. In the following schemes it will be seen that the treatment and control of epizootic, and the more serious enzootic diseases, plays a primary part; any attempt at breeding and improvement of livestock types must, inevitably, follow on later as, without a

neral raising of the health level of the herds of this country, it ould be but a waste of time and money to introduce heavier ilkers or a better class of slaughter beast, for the higher the types e less tolerance will they show to local diseases. Preliminary eeding experiments will be carried out, therefore, at centres under e combined control and supervision of agricultural and veterinary ficers, but no improved stock can be issued to outside people ntil such diseases as rinderpest, trypanosomiasis, and contagious ovine pleuro-pneumonia are either eradicated or well under control.

15. The surveys envisaged under Scheme No. VI will be carried t by veterinary officers in collaboration with officers of the gricultural Department or any other Department directly terested.

16. As much will depend upon the accuracy of the preliminary bservations and surveys made by qualified staff, it would seem dvisable to form a " pool " from which, from time to time men st suited to the work in view can be drawn. To attempt to locate officers more or less permanently to definite schemes would e undesirable and improvident, in view of the serious shortage of ained staff.

DISEASE CONTROL

Scheme No. I.—Rinderpest Immunization Campaign

17. For many years the menace of this disease has hung reateningly above the heads of the cattle-owners of much of frica, and the annual losses in livestock have been enormous. oday, the presence of this, or any other highly contagious or fectious disease, assumes new proportions as, while such diseases e prevalent, there can be no true progress in livestock production, or no free and widespread movement of stock to markets, which is necessary, can be permitted, lest infection be spread so rapidly hat control becomes impossible.

18. The complete eradication of rinderpest from Africa is a ossibility, but, while vast tracts of Central Africa still remain inly populated and inadequately administered, and while game xists in large numbers to play its vital part in the maintenance nd transmission of disease, we cannot hope for an early and omplete solution to our problems.

19. It is essential, therefore, that, for the present, we should ush forward with all possible speed with our immunization of erds either in contact with rinderpest, or directly threatened hrough movement of infected stock or game.

20. It is fortunate that we have the means at hand to tackle is duty, in attenuated goat virus, which, unlike the old double noculation method, is capable of immunizing the animal without eriously endangering its life and without rendering it infective to her healthy stock during the reaction period.

21. It is proposed to carry out large-scale immunizations in the orthern and Eastern areas of Nigeria which will entail the construc- on of semi-permanent camps, the maintenance of a large staff of noculators, and the provision of an adequate amount of field equip- ent. Ten camps will be required costing about £3,000 each.

22. In these areas it is also proposed to immunize at intervals , say, one to two years, all young stock which have been born or ave grown up since the previous treatment. In this connection should be noted that immunity through inoculation cannot be uaranteed in unweaned calves, which adds to our difficulties.

23. In view of the large number of immunizations to be carried out, it will be necessary to re-equip the headquarters laboratory which, at present, is vainly endeavouring to keep abreast with even the present day light demands. A modern dehydration and refrigeration plant is urgently required, for, in dealing with the production of a " delicate " dry virus for field use, it is essential that every precaution should be taken to ensure the viability of the virus when it reaches the field stations lest, as has happened on occasion already, immunity is not conferred and the treated animals subsequently succumb to natural rinderpest infection.

24. Once wholesale immunization commences it will be imperative, for the good of the community, to bring in legislation making treatment compulsory, as it is most difficult to persuade the more backward owners to have their stock immunized before the disease is widespread throughout the countryside, a matter which is essential in order to maintain successful control.

Anthrax and Blackquarter

25. Immunizations against these diseases will be carried out, as far as possible, and when found necessary at the rinderpest immunization camps.

26. The control of immunization camps will be vested in Development Officers specially trained to undertake the work. The operators will be trained Africans. The over-all supervision of areas, districts, or provinces will be maintained either by the existing professional staff or by special veterinary officers detailed for this duty.

27. The term " semi-permanent camps " refers more to the general accommodation erected at various points for European and African staff. The actual holding grounds, where stock will receive their inoculations, will be moved from time to time, in order to avoid massive infection of the area with parasites or contamination of the land through diseases which live in the soil, such as anthrax and blackquarter. They will, however, always be sited so as to be within easy reach of the centre where the staff are housed.

28. A hostel and kit store for Development Officers will be built at Vom. This will provide living quarters for use during their training period and will also serve as a centre to which they can return between immunization or other investigational tours and for refresher courses.

Scheme No. II.—Trypanosomiasis: Investigations and Treatment

29. This disease is widespread throughout the country, infection being due chiefly to the seasonal movement of stock to and fro between the Northern and Central grazing areas, which movement frequently takes place through tsetse belts, although infection through mechanical transmission from sick to healthy animals by biting flies, such as stomoxys, plays an important part.

30. Until adequate water supplies are made available, with a view to " anchoring " stock and relieving the owners of the necessity of moving with the seasons, it will be necessary to treat, on a large scale, as many infected herds as is possible, so as to ensure the maintenance of ample foundation stock for future needs, when a prophylactic against trypanosomiasis may be available.

31. Meanwhile, investigations will be carried out, in conjunction with the tsetse research team, with a view to making a clearer demarcation of tsetse belts and a mapping out, where possible, of stock routes which are not endangered by fly belts.

32. It is proposed to equip officers with large tents of the survey attern in the earlier stages, although possibly later on a few semi-ermanent residences or centres may be constructed.

33. Treatment, if carried out on a large enough scale initially, hould result in a progressive diminution of infected cases, and so onsiderably reduce the numbers of infections due to mechanical ransmission.

34. This work will be carried out chiefly by district staffs, with dditional helpers where necessary.

35. The drug to be used will be, in all probability, one of the ewer forms of phenanthridinium, if it can be produced on a ommercial scale in a cheap and readily soluble form for sub-utaneous injection. Experimental work is hoped to be started oon in collaboration with United Kingdom research workers who re investigating the manufacture of new drugs.

36. It is anticipated that before long chemo-therapy will roduce for us a reliable diagnostic test and so accelerate the clean-ng up of infected herds.

Scheme No. III.—Contagious Bovine Pleuro-Pneumonia

37. This most insidious disease is rapidly assuming dangerous roportions and every effort should be made to combat its spread. ts control and eradication is a most difficult problem as definite linical diagnosis is practically impossible without a post-mortem xamination. Moreover there is always present the grave danger f apparently recovered animals relapsing subsequently and so naintaining infection in the herd.

38. Investigations into better methods of immunization are eing carried out elsewhere in Africa, under a Colonial Develop-ment Vote grant, but, meanwhile, a vaccine is available which hould be widely used on infected herds until a newer and better echnique is evolved.

39. As there is no satisfactory method of treatment, and ecovered animals may still, at a subsequent date, relapse, it is ssential that all infected, or even suspected, animals should be estroyed, although the carcase need not be condemned as unfit for uman consumption.

40. To ensure early information of outbreaks it will be ecessary to follow the example of other countries and pay ompensation for animals slaughtered by a veterinary officer. The asis of compensation can be decided upon later, but it should be airly liberal so as to avoid concealment of disease in its early stages half the value of the animal prior to infection, the owner to be llowed to sell the meat of the slaughtered animal).

41. It is proposed to immunize all stock in the affected centres t approved intervals and to weed out and slaughter all infected or suspect stock.

42. To do this work efficiently, experiments and investigations must be carried out, both in the laboratory and in the field, with a view to producing a diagnostic method easily applied in the field by semi-skilled African staff.

Scheme No. IV.—Helminthiasis

43. As mixed farming methods become more and more popular, with consequent concentration of stock on small holdings, parasitic diseases will assume much more economic importance than they

do at present, although already on stock farms, the seriousness of the position is fully appreciated.

44. The most modern efficacious drug available at present is phenothiazine, but it is hoped that newer and cheaper drugs will shortly be available.

45. Investigations should be carried out as to the various parasites involved and methods of treatment to be perfected. It would be illogical to control the major epizootics and then to encourage small holding and mixed farming schemes if the result is to be that the stock-owner has but escaped one danger to fall victim to another, equally serious although less spectacular.

Scheme No. V.—Livestock Improvement Scheme

46. As the campaign against epizootic diseases proceeds we should, at the same time, to justify the expense and labour involved, aim at a general improvement in the quality of the livestock, advantage being taken of the presence of the owners at the various immunization camps to disseminate propaganda amongst them as to the advisability of selection for breeding of only the best males and castration of the undesirables.

47. The actual castration work will be carried out in the field by teams of trained operators under the supervision of Development Officers, who will advise the owners as to the lines of selection which should be followed.

48. In areas, or in herds where good male stock is not available, approved bulls should be issued either free, or preferably on payment, to carefully selected owners. These bulls should be obtained whenever the opportunity occurs, e.g. at immunization camps, and collection centres should be established at which bulls can be retained pending distribution, or young bulls can be reared to maturity before issue.

49. In addition to the above measures the possibility of achieving a more rapid improvement of existing local breeds by the use of imported stock should be thoroughly investigated. Experiments in cross-breeding local cattle with, say, Indian sahiwal bulls, or dual purpose Afrikander bulls from South Africa might be carried out. These imported animals will be maintained under close supervision either at a special centre or at certain of the agricultural farms.

50. Opportunity will also be taken of carrying out experiments at these centres on artificial insemination.

51. In this connection the opening up of new air transport lines should bring the experimental laboratories at Cambridge and elsewhere into closer contact with this country.

52. It is well within the bounds of possibility that within the next few years we shall be able to obtain material from the best selected sires at these home investigational centres, have it sent out by air, and used on local stock, especially in main townships where large milk supplies are urgently required.

Scheme No. VI.—General Investigational Work—Economic Surveys

53. Much important investigational work requires to be carried out on pasture in general, on rotational grazing, and on the provision of water supplies at suitable places so as to obviate movements over large distances to water. Stock routes should be mapped out so as

to avoid tsetse belts, and tsetse belts must be more clearly demarcated. In all these activities the active participation by Veterinary Officers and their staffs is essential, so as to ensure full co-operation with other interested Departments and a resulting well-balanced and economic form of land management.

54. In Bornu Province an agro-economic survey should be carried out, agricultural and veterinary officers co-operating most closely on this work, with a view to laying down a policy to be followed during the ensuing years best fitted to the needs of the people and to the general environmental conditions of the countryside.

55. Similar investigations should also be carried out in the " Middle Belt " where mixed farming is a desideratum but livestock still plays a very minor part in the local economy.

56. In the Southern Provinces the desirability of pressing forward with the breeding of pigs and goats of approved types, where tsetse permit, should be carefully investigated, so as to provide a much needed protein ration and at the same time provide a market for surplus food suitable for pig feed.

57. The possibility of producing cheap salted pork, which would be an invaluable adjunct to the ration of the poorer classes, will not be lost sight of.

58. These surveys will be carried out by Veterinary Officers and Development Officers of this Department in close co-operation with officers of the Agricultural and other interested Departments.

Scheme No. VII.—Hides and Skins Improvement Scheme

59. With the present world-wide shortage of leather of all kinds, a shortage which it seems is likely to persist for many years to come, it is becoming increasingly necessary to do all possible to ensure that every hide or skin is prepared in the best possible manner, so that there shall be no waste and that each hide or skin reaches the tanner, if not as a first-grade article, at least well up in the selection list. Even a casual inspection of hide stores today will show that very large numbers of hides and skins of potentially high grade are only fit for the glue pot through neglect or poor preparation.

60. Demonstrators are urgently required to tour the country to give practical advice and to demonstrate the best modern methods of flaying, drying and general preparation. Experiments will also be carried out on the application locally of methods evolved from time to time by tanners or research institutes at home.

61. Both European and African staff will also be able to keep a closer check than is possible at present on the prices paid for each grade so as to ensure a fair return to the producer for his work in preparation.

62. It will be necessary to remodel the legislation at present in force in order to give adequate control over all sections of the trade.

63. If it is intended that, at some future date, Government should exercise much closer control over the export of hides and skins, the specialist officers asked for under this scheme could ultimately become official Government graders. Such a scheme is already receiving careful consideration by the Governments of the East African territories.

64. In the southern districts many hides are eaten each year, the grave shortage of meat resulting in an attempt by the local African to satisfy his protein requirements in such a manner.

65. Efforts must be made to supply this need by the provision of pork or goat meat where the keeping of cattle is hazardous owing to the presence of tsetse, or trypanosomiasis due to mechanical transmission. As this is being effected demonstrations on hide and skin production must be carried out so as to avoid further wastage of potential leather, so badly required at the present moment.

STAFF REQUIREMENTS

66. This plan coupled with the necessary reorganization of the Department will involve the creation of the following *additional* permanent posts for European trained staff:—

3 Assistant Directors.
5 Veterinary Officers.
2 Research Officers.
1 Laboratory Technician.
3 Hides and Skins Inspectors.

67. The cost of this staff, inclusive of the Assistant Directors, who nevertheless will be shown in the departmental Head of the Estimates, will rise to a maximum of £13,840 per annum inclusive of allowances and passages but exclusive of pension charges.

68. Temporary European staff will be a maximum of seventeen Development Officers, costing £13,320 per annum plus gratuities which over the ten-year period will amount to some £13,600. These officers will, in due course, be replaced by Africans as suitable trainees come forward.

69. African staff will rise to a maximum of thirty Veterinary Assistants, six Microscopists, eighteen Inoculators and ten Sub-Inspectors of hides and skins with further additions of drivers, artizans, etc. The peak cost of this staff with allowances is estimated at £7,000 per annum but the figure is subject to some adjustment for recent increases in allowances.

70. Capital expenditure on buildings provide for hostel and kit store for Development Officers at Vom, four staff residences and African quarters at Vom, five livestock improvement centres at £5,000 each and ten immunization camps at £3,000 each. The total is estimated at £74,000.

71. Special expenditure for equipment, etc., for all schemes in the Veterinary Plan is estimated at a total of £12,700 over the ten years, the peak being £6,650 in the first year.

72. Vehicles will cost about £15,000 over the ten years, the initial expenditure over the first two years being the heaviest.

73. Maintenance of vehicles and transport and travelling allowances are estimated to cost a total of £39,200 with an annual maximum of £4,800.

74. Other Recurrent expenditure is estimated to cost a total of £139,930 with an annual peak of £20,250.

75. All these figures represent additions to the present expenditure of the Department but they represent schemes which should prove valuable investments and the overall cost of this development, amounting to some £600,000 over the ten-year period should show a handsome dividend. It is hoped nevertheless that a substantial portion of the cost will be provided from the Colonial Development and Welfare Vote.

76. A summary of expenditure for Veterinary Development, year by year, is given in Table XI.

APPENDIX XIV

FORESTRY DEVELOPMENT PLAN

Summary of proposals prepared by CAPTAIN L. NICHOLLS, M.C., *Chief Conservator of Forests*

eneral Information

1. It is most important to realise that Nigeria is not a country of exhaustible high timber forest. The closed high forest is no more an a coastal fringe and by far the larger part of the country is overed by the savannah woodland which is popularly and aptly nown as " orchard bush ", with tall grass covering the ground. orestry is, therefore, concerned in Nigeria not only with timber ut even more with forest produce in its widest sense, down to the atching grass, grazing and small firewood of the most open orthern Reserves.

2. The Nigerian peasant has always relied for his essential pplies of forest produce, his hunting and his pastures, upon what regards as the unused, waste or common land, not realising that ese lands have only been maintained as such by the population ntrol, imposed by the insecurity of life in earlier days before the uropean contact was made. Under modern conditions the waste d common lands, and with them sources of supply vital to the mmunity, must disappear under a welter of individually acquired rming rights, if no positive action is taken to protect the rights of e community against the self-interest of the individual.

3. It is true that natural development by the African himself ay in certain areas unconsciously establish a balanced distribution farm land and tree growth, as has happened in the densely cupied Kano farmlands and, as it is possible, may occur in certain osely populated Ibo areas, but such a balance can only be main-ined while the African continues to live a primitive rural life. nce the country is fully occupied and to a certain degree dustrialized, these supplies, which may be likened to the hedge-w and park timber of the British Isles, will prove completely adequate. The supplies of forest produce required by a fully cupied and developed country can only be met by the growth of rest as a crop. The experience of other countries has proved so nclusively that an adequate proportion of permanent forest is an sential part of a planned and balanced countryside that the point ed not be laboured.

4. It is the policy of the Government, therefore, to maintain a lance by the completion of the Forest Estate, that is, by the legal nstitution of sufficient forests distributed in suitable blocks over e country. It must be remembered in this connection that the ord " forest " means the type of tree growth of the locality whether be timber forest in the Benin Division or the scattered Acacias of rthern Bornu.

5. The necessary lands still exist as waste or common lands d Government policy is to endorse the communal title to such of ese lands as are proved necessary for forestry by approving their nstitution as Native Administration Reserves. It will be preciated that a tree crop, taking very many years to grow and yet quired to give a sustained annual yield of produce, is very suscepti-e to over-exploitation; the difference between the forest capital d the annual interest which alone can be removed if the capital to be maintained intact is most difficult to determine. Forests

can only be managed, if they are to be a permanent asset giving a sustained yield, under flexible but definite plans of management providing for continuity of treatment beyond the limits of any one man's service. Government proposes, therefore, to examine the productive or protective potentialities of the areas so selected, to draw up simple plans for their management with a sustained yield and to train African staff at the appropriate time, including the necessary African regional officers, to apply such plans.*

6. The lack of trained European staff in the past has made it impossible for the Forest Department to keep pace with the opening up and development of the country, either in the matter of securing the necessary forests or of training African staff and still less in that of planned management. In an effort to keep pace with development and to meet the scattered local demands made upon it, the Forest Department has been driven to diffuse its energies to an extent that it can now barely maintain the work which it has accomplished in the past.

Objects of Plan

7. The present Development Plan is nothing more than an administrative scheme to bring about ordered progress in Forestry matters with the definite aim of the " capital work " of presenting to Nigeria an adequate and secure forest estate, under simple plans for a sustained yield which can be applied by the African and with an African cadre capable of managing its forests in perpetuity, subject only to control in the matter of adherence to the main policy laid down initially by Government.

8. The Forestry Plan cannot be based upon the present requirements and mode of life of the country; its object must be to ensure for the Nigeria of the future, fully occupied by a vastly increased population and with a much higher standard of living, adequate supplies of forest produce and permanent control of rainwater run-off, wherever the maintenance of vegetation can bring this about.

This object can only be attained if an ordered sequence of operations is laid down and followed, each phase of the sequence being completed in the administrative unit selected for working purposes before the next is embarked upon. The first phase of this sequence must be reconnaissance of the unit followed by discussion with all other interests concerned, and decision as to the layout of the forest estate in that unit. The second phase is that of legal constitution of the Forest Reserves so decided upon, work which must be based upon the exhaustive enquiry into rights and demarcation of boundaries, which is known as settlement.

9. The third main phase, and the final one in the task covered by this Development Plan, is the preparation of management plans for each Reserve and the training of African staff in the application of the Plans. Once this phase is genuinely complete the forest estate will be a " going concern " which can be left to the African for development.

10. It is obviously out of the question in a country the size of Nigeria and in such different stages of advancement, to complete each phase of the accepted sequence of operations over the whole country before embarking upon the next. A working unit has therefore to be selected. The smaller the unit the more efficient will be the results, but in practice it is not possible, even if it were necessary, to provide staff for a plan based upon a unit smaller than the administrative Province, which is admirably suited for work such as Forestry which is so closely bound up with land tenure and the rights of the people. The Province has therefore been chosen as

* The efficiency of working and financial stability must be regarded as essential in the choice of exploiting agencies whether European or African.

the unit. Nothing has emerged more clearly from preliminary discussion than the fact that planning is rigidly controlled by very limited availability of the trained European staff, who alone can give the necessary training to Africans and carry out the initial planning. It is quite out of the question to provide immediately European and African staff for all the Provinces of Nigeria; recruitment cannot be complete in any period less than ten years. It follows that if the diffusion of effort which has proved so fruitless in the past is to be avoided, Provinces must be arranged in an order of priority for attention, their priority based upon the degree of forestry progress already made, the urgency of forest problems and the possibility of an effective advance in each.

11. In brief, therefore, the method by which the aims of this Development Plan are to be attained cover the acceptance of an ordered sequence of operations in each working unit, the acceptance of the administrative Province as the working unit and the arrangement of Provinces in an order of priority for allocation of staff and attention.

12. Given the rigid framework imposed by these conditions, Provincial plans can be drawn up which it will be possible practically to carry out. Until that framework is approved Provincial forestry proposals can be no more than theory almost impossible to apply in practice.

S t a ff

13. In the training of Africans no one, least of all the African, will deny that close and continued contact with direct tuition by an able European produce immeasurably the best results. At the same time the European must have an adequate African staff to put his knowledge and experience to practical effect. The staff required to fill each duty post made necessary by this Plan must, therefore, be a team of Africans under the leadership of a European.

14. The personnel required under this Plan is to be regarded as creative staff with the special duty of accomplishing the object of the Plan, that of presenting Nigeria with a Forest Estate in working order. It must rise as rapidly as possible to its optimum strength and, its task accomplished, decrease, by natural wastage in the case of Europeans and by absorption into the future management staff in the case of Africans.

15. The future management staff must here be mentioned although it would be out of place to include specific provision for it in a Development Plan instead of in the country's normal estimates. The necessity for it arises when the last phase of the sequence of operations is reached by any Province, that is, the phase of individual forest management plans, but training and preparation must commence well in advance. The main problem will be that of bridging the great gap which at present exists between the upper grades of the African field staff and the trained European Forest Officer. The very class which is most essential to forest management in a civilised and developed country is absolutely lacking in Nigeria—the regional forest officer, intelligent, trained, the social equivalent of the doctor and the lawyer, but a " countryman " in the fullest sense of the word. It is not merely a matter of appointing an African to the post of the European Provincial Forest Officer, with a charge too extensive for him to be in effective touch with individual forest operations; for the Provincial Forest Officer must in the course of time become an anachronism. The African regional forest officer will fill a post at present not provided for, a newly created need which must result from the successful application of

the Development Plan, and the time is probably not distant when the first of them will be required.

16. In brief, each European duty officer must be regarded as the head of an African team and, the Province being the unit, the organization of the Forestry staff must be linked with that of the Administration. It is proposed that each Resident shall be advised by a Provincial Forest Officer taking charge of technical forestry matters in the Province, where necessary helped by Assistant Conservators, and that each Chief Commissioner shall be similarly advised by an Assistant Chief Conservator. Where such large areas are concerned and most particularly in the coming period of expansion when every Department must carry an undue weight of trained but inexperienced European officers, the Assistant Chief Conservator can only maintain adequate technical contact with the Provincial Forest Officers through his Conservators. For purely administrative reasons, it is necessary to balance the expansion of staff by the increase of the number of Conservators for Nigeria from five to eight.

Equipment, Working Funds and Housing.

17. It is of prime importance that staff shall be provided with adequate equipment and working votes. A correct balance must at all times be maintained. If anything is more uneconomic than an excess of working votes which cannot be wisely spent, it is an inadequate provision which keeps expensive and technically trained staff standing idle. Housing is one of the most important administrative details of this Plan and must on no account be neglected.

Education.

18. The extension of the Forestry School at Ibadan requires no comment. Difficult though it proves to obtain a sufficient number of Africans qualified and eager for the higher grades of Forestry Field work, the results of the School have been on the whole eminently satisfactory. The services of the best Forest Assistants are most highly spoken of by European Field Officers; they have become quite indispensable and the increase of their numbers is a necessity which cannot be disputed.

Special Projects.

19. The matter of special Forestry projects can only be briefly touched upon. Proposals for plantations, erosion control, special afforestation and even sawmills are entirely dependent upon the prior acceptance and implementation of this main plan. Such projects, including the supply of timber requirements resulting from other Development Plans in the great majority of cases will prove on examination to be justified only on a strictly business basis, and to be staffed by special executive officers without technical Forestry training and drawn from the central pool of Development Officers or other sources. Provision has, however, been included for certain sawmills, the necessity for which can be foreseen as the inevitable result of development in Nigeria as a whole.

20. In conclusion, it must be emphasised that this Forestry Development Plan can only be considered as a whole; its details are completely interdependent and closely linked. Adjustments can only be made with this in view. Whatever happens the appropriate balance of European field staff, specialist officers, African staff and working funds must be maintained and any one can only be reduced or increased if the rest are altered accordingly. Elasticity is provided by the principle of Provincial priorities which must be adhered to and control will be effected by the circulation of the

complete Departmental plan—upon which this Appendix is based—in its full detail to all concerned.

21. This plan will call for the reinforcement of the existing staff of the Forest Department by three Conservators with the necessary supporting clerical and technical staff, which together with allowances and the necessary funds for actual work to be done will amount to £311,000 over the ten-year period. In addition eight specialist officers will be required and a further fifty-eight Assistant Conservators of Forests who will be recruited gradually as suitable candidates become available. The cost of these officers, together with supporting staff, allowances, passages and the necessary expenditure on labour and transport will over the period amount to approximately £485,000.

22. In addition to the extra field and administrative staff already referred to, the extension and operation of the Forest School will cost £12,000 and a capital investment of £6,000 will be needed in connection with a wood working and wood treatment plant to be installed at Aponmu.

23. The over-all cost of the operation of the plan will, therefore, be about £814,000, annual details of which are summarized in Table XII. In addition to this expenditure, however, there will be a further capital expenditure of approximately £100,000 on residences and offices which are provided for under the Building Development Plan described in Appendix XXII and shown in Table XVI.

24. A further item of expenditure, which it is proposed to finance through the Nigeria Local Development Board, is that for fourteen saw mills of three different types and sizes which will be operated under commercial conditions and will cost about £67,600 other than the working capital required for their operation.

APPENDIX XV

DEVELOPMENT AND ORGANIZATION OF COMMERCE AND INDUSTRIES

It is obvious that any plan of development must have in the forefront, as one of its major objectives, the economic improvement of the lot of the people, because without this, any other forms of development are liable to become a liability rather than an asset.

2. Nigeria already has a number of indigenous industries, some of great antiquity, and mostly working as peasant or cottage industries in the villages. It is most desirable that these industries should be developed in their present surroundings but on a higher level of efficiency so that they should become more remunerative to the operators and yet keep the people in their present environment in the country. These industries cannot develop without instruction and guidance and the provision of better means for marketing the products.

3. While in course of time co-operative societies may assist in such developments, it is essential that there should be some organizing and co-ordinating influence under the aegis of Government which will give the lead and provide the means of instruction for the furtherance of these industries and will assist in organizing the marketing of the products.

4. In addition to its existing and potential native industries, Nigeria relies for a large part of its income on the export of agricultural products and it is obvious that the producer has not always had the best return for his labourers in the production of these commodities; neither have prices always been sufficiently stable in the past to ensure a sense of security to the farmers. There is a wide field of work to be done by a suitably staffed Government Department in the organization and marketing of export commodities without necessarily interfering with the main channels of trade. Such a system would ensure that the producer's efforts are adequately and reasonably remunerated in accordance with the real value of the product and so engender a better sense of security as to the future.

5. Apart from the development and organization of existing industries and trade, there is no doubt that there is a wide field awaiting development, probably as a series of relatively small enterprises, in the improvement of commodities produced in the country for internal consumption. There is also a field of work awaiting organization in the better preparation of agricultural products, and the improved extraction of palm oil in order that they will all ensure a better return to the farmers, but unless some central organization is available to do this work nothing will ever materialize.

6. It has been decided, therefore, as a policy of Government, approved by Legislative Council, to set up a Department of Commerce and Industries, headed by a Director of general commercial experience, supported by two Deputy Directors, one to deal with export commodities and the other to deal with the organization of internal trade and the development of native industries. Further specialists and organizing staff will undoubtedly be required as time goes on, and at certain stages the employment of specialists, on contract, may be necessary, in order to ensure the benefit of the best advice possible in these developments.

7. It is contemplated that such a Department will not only be an organizing entity, but will have special branches for experiment, extension work, and training, e.g. fisheries and peasant textile industries. Two branches are already in process of establishment, and others, e.g. for the improvement of the pottery, brick and tile industries are contemplated. It is also proposed that the Department should be set up in such a way that it can carry out small scale commercial experiments on its own account and up to the pilot plant stage, in order to provide the necessary proof as to the commercial possibilities and the economic value of any proposed new developments.

8. It will also provide advisory services in connection with subjects within its scope and help to organize developments by Native Authorities or co-operative societies. It will also be the focus for commercial information and intelligence, and the collation of information in statistical form.

9. The Department will work in close collaboration with existing Departments, particularly the Agricultural, Veterinary and Forestry Departments, taking over from them for preliminary commercial test and exploitation any work which has proved to be of commercial value on an experimental scale. In this connection such subjects as animal and dairy products and timber exploitation are under consideration.

10. It is difficult at this stage to estimate what will be the financial requirements of this Department. Apart from the special branches which are being financed under the Development Plan, e.g. Fisheries and Textiles, the central organization will probably cost some £10,000 to £12,000 per annum irrespective of the employment of specialists on contract. Capital expenditure and working capital in connection with any such industrial developments will normally be found through the proposed Nigerian Local Development Board, which should have funds placed at its disposal from the loans to be raised for development purposes.

APPENDIX XVI

FISHERIES DEVELOPMENT

Summary of proposals prepared by CAPTAIN W. B. DOWSON, B.SC., *Fisheries Development Officer, in consultation with the Fisheries Adviser to the Secretary of State*

Fishery development properly falls into two sections:—

(*a*) Development and improvement of existing local fisheries.

(*b*) Long term research, including deep sea experimental fishery research and research into methods of fish curing.

2. The plan which is now presented is concerned solely with the development of local fisheries since it is understood that long term research and the more general investigations will be provided for under a West African fisheries research scheme financed from the Colonial Development and Welfare Vote.

3. Nigeria has vast areas of fishable water. Excluding the sea, the water masses lie chiefly in an area within fifty miles of the coast, where they form probably one of the most extensive estuarine creek, lagoon and swamp systems in the world. On a coastline of some 700 miles there are twenty-three large estuaries, all but one being inter-connected by creeks and lagoons. It is in this coastal area that the main fisheries of Nigeria are concentrated.

4. These sheltered waters have attracted the fisherfolk away from the sea and sea fishing is of relatively small importance at present. Whatever prizes the sea fisheries may hold for the future the difficulty of inducing fair weather creek fishermen to risk the hazards of the open sea is likely to operate against their rapid development.

5. Nigeria's population of twenty-two millions can consume all the fish ever likely to be caught in Nigeria, and for the present, catches are utterly inadequate to meet the demand. In fact, before the war they had to be heavily supplemented by imports of dried unsalted fish. The limiting factor does not appear to be so much the lack of fish as the nature of the devices used, numerous, ingenious and efficient as they are and the fact that with these devices only the shallows can be exploited, which comprise only a fraction of the potential fishing area. For this latter reason the bulk of the catch is of small fish, many of which are immature.

6. The low purchasing power of the fisherman and his present poor income tends to limit the size and nature of his equipment to what he and his family can make or buy. Normally it consists of a dugout canoe costing from 30s to £10 made from local trees, and traps, weirs and barriers made from local fibres; small cast nets and other nets which he makes from imported net cord he buys at almost prohibitive prices.

7. The dugout canoe is the only craft used and built-boats are unknown. The canoes, paddled or sailed, are satisfactory as far as they go but they have definite limitations. They are in fact the most serious limiting factor in fisheries development. Their principal disadvantages are small carrying capacity, both of gear and fish and instability. They are from ten feet to twenty-five feet long but the low freeboard, shallow draft, narrow beam and general shape result in capacity and weather qualities far inferior to built boats of similar length. It is impossible to improve this form of

canoe and until the art of building boats is learnt and adequate supplies of the right local timbers are available for boat building it is difficult to see how substantial progress can be made in fish capture.

8. The existing catching devices and methods are hardly capable of improvement within their limited spheres. They have been perfected through the ages, and it is probable that no real improvement will be effected. The improvement will lie in the introduction of new techniques and particularly heavier gear to fish the deeper waters. Such gear being heavier than that employed at present will require the use of built boats with suitable engines since flat calms are more usual in the creeks than sailing winds.

9. The much higher first cost and maintenance of built boats would make their cost prohibitive to the average fisherman and, therefore, assistance by Government in the form of easy purchase terms will have to be made available. The germ of co-operation exists as is shown by the present joint ownership of the larger sea-going canoes, and in the sharing of the catch. It should not be difficult therefore to foster schemes of co-operative purchase of built boats and heavier gear.

10. The first essential is to prove and particularly to prove to the African fishermen by ocular demonstration, that small built boats, with trouble free engines, using modern gear do enable them actually to catch far more fish than they can with their present equipment; then to convince them that the introduced gear is not beyond their capacity to acquire, with Government assistance if necessary, through the results of their own industry. To achieve this result it is proposed to experiment with more modern methods of fish catching in the estuaries, creeks and lagoons, with one or two small powered fishing vessels managed by experienced master fishermen appointed from outside Nigeria.

11. It may be asked will not the use of improved methods of fishing result in a diminution of the creek fish population with the result that either fishing will have to be regulated or steps will have to be taken to restrict fishing artificially from time to time. If power fishing were to expand too far there might be fewer large fish, but it is unlikely, for some time to come that power fishing craft will become so numerous that they can evade the regulations of a simple licensing system. Should, however, symptoms of gross over-fishing arise, similar methods to those employed in Europe may have to be adopted to remedy the situation.

12. The second avenue of development in the estuaries, creeks and lagoons lies in the possibilities of fish farming and fish culture in enclosed waters, either brackish or fresh, tidal or non-tidal. At present such practice, though age-old in other parts of the world, is unknown and untried in Nigeria.

13. Various species of the cichlid fishes, mullet and other species likely to be suitable for fish farming are common in the estuaries, creeks and lagoons. At present they are caught in cast nets, non-return traps and other devices, but owing to the non-selective nature of these devices and the fact that they are almost exclusively employed in shallow water, where small fish congregate, the bulk of the catch is of small fish, many of which are immature. If it could be shown that by concentrating such species in ponds, lagoons, small creeks, and the arms of large creeks, the growth rate of the fish could be economically increased over the growth rate in unenclosed waters, then such practice might have an appeal to the people. In certain sections of the coast where lagoons and creeks are separated from the sea by a very narrow

strip of sand, the principle of the Barachois of Mauritius is worth trial.

14. To implement these lines of development it is proposed:

I. To appoint four Fisheries Development Officers who would be stationed at Lagos, and one each in the Western, Eastern and Northern Provinces at places to be decided later. These would have as their duties,

(*a*) the conducting of fish farming experiments;

(*b*) the dissemination, among the people of the area, of the knowledge acquired by the master fishermen as a result of the trial of improved methods of catching fish and eventually of the lessons of the West African Research Station;

(*c*) the conducting of propaganda directed to persuade the people to—

(*i*) adopt these improved methods of fishing;

(*ii*) take the measures necessary to encourage the breeding of particular species of fish;

(*iii*) take the necessary conservation measures;

(*d*) the investigation and improvement of local methods of fish curing.

II. To appoint an expert fish culturist—preferably from the Fisheries School at Hong Kong for the reason that the Chinese who have practised this craft for centuries are the recognized experts. Consideration was given to the possibility of sending an officer from Nigeria to take a course at the Fisheries School at Hong Kong, but the Fisheries Adviser to the Secretary of State is convinced that the best results will be obtained by bringing an expert from Hong Kong for the reason that the traditional methods evolved through the centuries in creek and swamp country in Hong Kong are the most suitable for adaptation to Nigerian conditions in the first place.

III. To establish a fisheries school at Lagos where training would be provided in aquiculture. The training would have a practical bias which would be assured by the students working with the master fisherman and with the Fisheries Development Officer on experimental fishing and fish farming.

15. The supply of Fisheries Officers will be decided by the Training Scheme to be formulated by the Fisheries Adviser to the Secretary of State. It is suggested that Fisheries Officers, whether European or African, should undergo a course of training of a practical nature in the United Kingdom. The local training of African Fisheries Assistants will be undertaken at the present Fisheries Station at Lagos where training facilities and accommodation for six students have already been provided. It is proposed that the Headquarters of Fisheries Development activities should be at Lagos and that initial work on power fishing and fish farming should be based on Lagos. Later a division of activity will be arranged whereby one Fisheries Officer and one Master Fisherman will be posted to the Western Provinces, one Fisheries Officer and one Master Fisherman to the Eastern Provinces and one Fisheries Officer to the Northern Provinces, each with appropriate supporting African staff.

16. The lines of development and investigation in connection with the river fisheries of the North cannot yet be decided. A good deal of preliminary survey and fact finding will be necessary but it is obvious nevertheless that there is a wide field of work waiting to be tackled not only on the cultural side but in connection with the curing of catches.

17. It may be found necessary for the Fisheries Officers to have small experimental stations at their respective Headquarters in the Eastern and Northern Provinces where the experiments in fish farming at the Lagos Station may be repeated or extended according to the local conditions to ascertain the most suitable methods for these areas.

18. Since in the vast area of creek and estuary country in Southern Nigeria roads are extremely few, water transport must be available and launches large enough to allow the Fisheries Officers to live aboard in reasonable comfort must be provided. The estimates allow for two diesel engine launches of the type produced by the Nigeria Marine Department, and for a third special type suitable for the Fisheries Officer to the Northern Provinces, whose work will require extensive travelling in shallow rivers in the dry season. These launches will also tow the experimental fishing boats from one area to another and house the Master Fishermen in transit. When the Fish Farmers' services are required elsewhere than at headquarters in Lagos, these launches will be available to take them on tour.

19. The foregoing represents only a development for five years covering the initial experimental, investigational and survey work together with the training of African staff who will ultimately assist in the field work and some of whom may be selected at a later stage for further studies overseas. The cost of this five years' development is estimated at £96,830 but this figure includes a substantial amount of capital expenditure totalling some £31,000 for the provision of buildings, not only at headquarters but also at the provincial stations, and motor fishing boats and three launches of a size suitable for the officers concerned to live on board. It is worthy of note that a further sum of £3,170 of capital expenditure is taking place during 1945-46. This expenditure is intended to be provided from Nigerian resources, partly from funds to be raised under the Development Loan Ordinance and partly from ordinary Nigerian expenditure. A summary of the details of the expenditure will be found in Table XIII.

20. Concurrently with this work, however, it is expected that provision will be made under the Colonial Development and Welfare Vote for the investigation of deep sea and off-shore fisheries along the whole of the British West African coastline. Some of this research work will be carried out along the Nigerian coast and it is expected that the results will show the line of development which should be followed for the exploitation of the deeper waters. It is not expected, however, that there should be any clash between the supplies of fish coming from the deep sea fisheries and that provided from the creeks, as the deep sea fisheries will deal largely with the bigger towns and with the curing of fish for shipment inland. Considering that the pre-war imports of unsalted fish amounted to some million and a half pounds sterling value there is obviously ample room for both developments.

21. At this stage it is not yet possible to estimate with any real degree of accuracy the cost of fisheries service after five years because this will depend to a large extent on the two investigations—the creek, estuarine and river fisheries under the Nigerian Fisheries Development Scheme and the deep sea fisheries under the Colonial Development and Welfare scheme. It is certain, however, that the recurrent charges after five years are unlikely to be less than £12,000 per annum. Even so there is no doubt that this expenditure should show a handsome reward in the development of the fisheries industry and the consequent improvement in the diet of the people.

APPENDIX XVII

DEVELOPMENT OF THE PEASANT TEXTILE INDUSTRIES IN NIGERIA

Textile production in its various forms represents a series of indigenous industries in Nigeria, employing a very large number of people directly and indirectly and representing a most important portion of the " consumer goods " of the country.

2. The industry may be divided into two principal parts: the one connected with the weaving of cotton cloths of various sizes, grades, weights and qualities and the other the manufacture of a wide variety of mats made from a number of palm and other fibres. The manufacture of cordage is a minor associated industry.

3. Almost without exception the methods used are primitive and uneconomical. In many cases the methods have not changed since the time of the ancient Egyptians from whom it would appear that some of the methods have been derived. The wastage of effort and the consequent loss of remuneration for work is everywhere outstanding and very big changes could be effected in a short time if adequate demonstration and supervision of improved methods were available. There is no lack of desire on the part of the people to improve their industries but technical guidance is almost entirely lacking, as well as designing of equipment suitable for adaptation to peasant industrial conditions.

4. It is not possible to estimate accurately the number of people who are involved in these peasant industries but it must run into some hundreds of thousands (it was estimated as high as one and a half million, including part time and seasonal work). For this reason, it is important that the industry should not only be maintained but the output increased but embarrassments of undue centralization must be avoided to prevent urbanization of the population and a depletion of the country villages. To a large extent it must remain a cottage industry providing, as it does, profitable spare time occupation for women.

5. In order that some rapid survey of the situation might be effected, the West African Institute of Industries, Arts and Social Science agreed to allow Mr A. E. Southern, Textile Expert, to pay a visit to Nigeria and he has recently completed a tour of some two months in the company of the Adviser on Rural Development. The time at Mr Southern's disposal was not sufficient for him to make anything like as complete a tour, as he would have desired, but it has, nevertheless, permitted him to obtain a very fair cross section of the varied types of weaving and spinning industries which at present exist in Nigeria, and to make preliminary investigations.

6. As the result of this survey, it is obvious that early action should be taken in order to improve the weaving industry in all its phases, so that it will be able not merely to sustain its position but improve its output under post war conditions. There is no shortage of raw material, particularly for cotton textiles, as the export of cotton from Nigeria is still considerable, while there is ample room for improvement in variety of types to meet the requirements of a larger textile industry with its requirements of variations in staple.

7. The first necessity is obviously the appointment of an officer to take charge of textile investigation, extension work and, possibly, later on, marketing organization. The necessary

provision for a Textile Expert was made under the Department of Commerce and Industries Head of the Estimates for 1945-46 and Mr Southern, who made the preliminary survey, has been appointed to that office with effect from January 1946.

8. It will be necessary for the Textile Expert, to make further field investigations and, in general, it is proposed that his duties should consist of the direction of surveys of the industries and the investigation, demonstration and extension of improved methods.

9. It is proposed that there should be established under him eight Territorial Centres, each in charge of a European Textile or Weaving Supervisor. It is believed that such persons should be available and, as in a number of places the weaving is carried out by the women, the appointment of women experts would be suitable in at least three of these places. The work of the Territorial Centres should be as follows:—

(*a*) Survey and investigation of the processes and methods in use in the particular section of the territory to be served by the Centre.

(*b*) Experimental work and research into the methods of improving existing processes and mechanisation of such operations as will lend themselves to such processes without creating undue urbanization or upsetting village life.

(*c*) Experiments with dyeing and the use of other fibres.

(*d*) The organisation of a demonstration centre associated with the research work at which selected local weavers brought in from the villages could be trained and who would on their return be used as the focus for further expansion of improved methods and general extension work in their own villages where they would become demonstrators under the supervision of the officer in charge of the regional centre.

(*e*) The encouragement of communal effort in improved methods and the formation of guilds, co-operatives or similar organisations, based where possible on existing weavers' guilds, by means of which standards of quality could be improved and ultimately insisted upon and through which the weavers would have an organisation for marketing their products in order that they may get the best financial result for their labours.

(*f*) It is proposed to provide separately for credit facilities to assist in the purchase of looms and other equipment.

10. The present proposals are that such centres should be set up to serve the following regions, although in some cases, the final decision in regard to locations may need to be altered after further consideration.

Area A. *(M).*—West of the railway line between Offa and Abeokuta. The area will include Abeokuta, Ibadan, Oyo, Iseyin, Ife, etc.. *Oyo* or *Iseyin* to be the centre.

Area B *(F).*—The Northern part of Ondo Province, *i.e.* north of the Owo-Ondo road as far as Aiyede and reaching the eastern and western provincial boundaries. Includes Ondo, Akure, Owo, Ikere, Ikare, Ado-Ekiti, etc. *Owo* to be the centre.

Area C. (M).—Westwards of the Niger between Lokoja and Onitsha to a line extending from Kabba to Ogwashi Uku. Includes Okene, Auchi, Ubiaja, etc. *Auchi* to be the centre.

Area D. (F).—Northwards from Aba to Awgu. This area includes Owerri, Okigwi, Bende, Ikot Ekpene and Akwete. *Ikot Ekpene* as the centre.

Area E. (M).—Tiv. From the Benue South and East to Bamenda and including Gboko, Wukari and Takum. *Gboko* or *Wukari* as a centre.

Area F. (M).—Eastwards of the railway between Ilorin and Zungeru and including Share, Pategi, Lafiagi, Bida, Abuja, etc. *Ilorin* to be the centre.

Area G. (F).—A rectangle north-eastwards of the railway between Kaura Namoda and Zaria and extending to a line between Katsina and Kano. The area with its headquarters at *Zaria* includes Gusau, Funtua, Anchau, Bichi, etc.

Area H. (M).—Bauchi and Bornu — details yet to be considered.

Note.—(M) or (F) indicates the preponderance of male or female weavers respectively.

11. If the drive for the supply of floor coverings in connection with post-war housing schemes is to proceed, it may also be necessary to set up centres where mat making industries are located to organise and improve production and marketing; but these will usually be Native Administration undertakings supervised by the textile staff.

12. In addition to this field investigation and demonstration work, some centralized research will be needed. This refers particularly to dyes and methods of dyeing using local vegetable dyes by improved methods, as well as the use of synthetics and proper mordants to suit the variety of fibres in use or likely to be used. Laboratory examination into the use, preparation and preservation of fibres for mat making is also desirable. To meet this it is suggested that one dye chemist and one fibre expert should be engaged on agreement for two tours and a small laboratory provided.

13. It is proposed that the scheme should be organized in the first instance on a five-year basis but it is quite obvious that the provision of expert advice and organization will have to be a permanency. In recognition, however, of the social and other benefits which will be derived by the peasants involved, agreement has been reached with the Secretary of State for the provision of partial assistance towards the cost of the scheme during the first five years when it may be considered to be on a partially experimental basis; thereafter, however, the total cost will have to be borne either by the Nigerian Government or the Native Administrations.

14. The total cost of the scheme over the five-year period is shown in Table XIV and is estimated at £90,685. Out of this an amount of £53,450 has been promised from the Colonial Development and Welfare Vote, plus a small additional amount to provide for specialist courses where required. This leaves approximately £37,000 to be found from Nigerian funds during the first five years

and an estimated maintenance cost thereafter of between £9,000 and £10,000 per annum. The total cost, therefore, over the ten years will be of the order of £140,000. The expenditure over the first five years, however, will be divided roughly as follows:—

	£
Establishment of eight centres including equipment and temporary houses for supervisors	19,200
Provision of a small Laboratory and equipment ...	2,000
Provision of ten European supervisors (temporary) for four and five years together with passages, and including local reliefs, local allowances and outfits (but no pensions)	34,065
Provision for dye chemist and fibre expert for two tours each with kit allowance and passages ...	6,040
Investigations and recurrent cost of laboratory work	1,700
Experimental work and demonstrations at the eight centres	3,600
Purchase of nine vehicles	4,500
Travelling expenses and maintenance of vehicles ...	9,000
Textile Expert, passages and allowances (including travelling)	6,480
Clerical assistance	2,500
Working Capital for demonstration centres ...	1,600
	£90,685

APPENDIX XVIII

SOCIAL WELFARE

As its name implies, Social Welfare plays a large and important part in the schemes of Colonial Development and Welfare. It is closely bound up with all the problems of economic welfare and social improvements but the time has not yet come when it would be possible to apply modern principles of social security to the peasant society, dependent for its livelihood on a subsistence economy or the growing of cash crops, which forms by far the greater part of the population of Nigeria. The first thing that is required for this part of the population is the provision of proper medical and water facilities to ensure that the average man is in a sufficiently healthy state to enable him to work properly. Schemes have been prepared and grants approved under the Colonial Development and Welfare Vote to make possible the installation of adequate rural and urban water supplies throughout Nigeria, while schemes for improved and enlarged health services are now under consideration as well as greater and better facilities for education in rural areas. Town and Country Planning, which will make for better living conditions, is under consideration and will be the principal factor in encouraging general social welfare activities.

2. Along with these subjects goes that of Social Welfare, a term which does not admit of precise definition in the same sense that the ordinary departmental activities of Government normally admit of such definition. But it may be properly applied to varied activities which touch the life of the community at many points, such as the promotion and strengthening of community life, the provision of village centres, the development of popular interest in literacy, local folk songs and dances; the encouragement of activities auxiliary to the work of specialist departments; domestic science, improvement in diet, cooking; the care of the destitute, the aged, the physically or mentally defective and unprotected children; the guidance and correction of delinquent children, adolescents, and prisoners; in fact all those members of the community who have developed an anti-social mind.

3. In Lagos, where the impact of extraneous influences is severely felt, conditions have arisen which necessitated, during the last three years, the provision of a welfare staff and organization which is achieving valuable work in dealing with many aspects of local life. It deals with such matters as dowry refunds, domestic disputes, family affairs of soldiers, boys clubs, girls hostels, a remand home, an "approved institute", recreation and port welfare work. As a result of this work during the last three years, a five-year plan has been prepared on the remedial measures intended to prevent juvenile delinquency. In 1943 the Children and Young Persons Ordinance was enacted as a first step towards dealing with the problems of the young. The provisions of this Ordinance will shortly be applied to the Township and Urban Area of Lagos and the first Juvenile Court in Nigeria will soon be established. Here the cases of young delinquents will be dealt with in an atmosphere more conducive to their future well-being than can be said to be the case in the public courts. At present these schemes are in their infancy, but the experience gained, slowly but surely, will be of inestimable value when the time comes to deal with similar problems in the Protectorate.

4. Measures designed to prevent this delinquency are a necessity and the first preventative measure to be considered is the reduction

of the migration of young persons into the town areas. Social Welfare methods alone will not solve this problem which, fundamentally, is economic in origin. It is true that in time Social Welfare work can and will help to make country life more attractive but the pre-requisite to all this is the improvement in agricultural methods and the exploitation of the land and a better means of ensuring that the farmer will receive a proper return for his labours. A number of development schemes within the ten-year plan will provide educational and other facilities for helping the peasant farmer and to train him and his children in better methods of cultivation and improved living conditions. The Social Welfare organization in the Provinces will, therefore, have to work in close association with all other development work, helping to build it on the frame work which the improved economic conditions will provide.

5. The first necessity is to appoint officers with a special aptitude for this work to the staffs of the Chief Commissioners who will be able to advise on what measures can be and should be taken in all social welfare services in their respective areas. The field work of such services must remain the duty of the Administrative staff, the members of which are those most cognizant of the life of the people in the villages and rural areas. But later it may be necessary to employ specially trained staff to deal with more specialized problems. It is proposed to recruit suitable persons locally who will be sent to the United Kingdom for training in such courses as are available and will be suitable for work in these areas.

6. There is even now much that can be done to make village life more attractive, and it is necessary to put such advisory staff to work early in order that schemes towards this end can be thought out. It is, however, of the utmost importance that this service should not be allowed to grow up in any haphazard way. It is not possible to lay down a long term plan to develop any social services which may be considered necessary but provision should be made from year to year for this purpose and in response to needs as they present themselves. It is essential therefore that an officer be appointed to co-ordinate the services as they come into being. To do this it is proposed to make provision for a Principal Assistant Secretary (Social Welfare) and to appoint to that office an officer who has shown adaptability in this kind of work to advise the Governor on problems of the type described.

7. It is not proposed to apply for any grant from the Colonial Development and Welfare Vote to cover these services. It is considered essential that the need for such services must be brought home to the people and it is, therefore, proposed that all funds for such services must come from Nigerian sources. Such work will be complementary to schemes assisted from the source mentioned. Funds have been provided in past years for some services which actually come within the sphere of social services.

8. It is not proposed that any special or separate Department of Government should be set up for Social Welfare work. It is and will continue to be an aspect of the duties and functions of the Administrative Service, although it may be necessary to supplement the Administrative personnel with a certain number of specialists for advisory purposes and extension work. With effect from 1946-47, however, the provision for all Social Welfare work will be made under Head 45 of the Estimates " Development and Welfare financed from Nigerian Funds " but the control of this expenditure, whether it may be in Lagos or in the Provinces, will continue to be vested in the Provincial Administration. The estimated expendi-

ture including the subvention to the Boy Scouts' Association, the Girl Guides' Association and Young Women's Christian Association and welfare work amongst Merchant Seamen for 1946-47 is estimated at approximately £25,000 and, no doubt, as the work develops in the course of time the annual provision will have to be substantially increased to cover the work in the Provinces.

9. It is emphasized that whatever schemes may be initiated, they cannot be applied to the best advantage of the people unless the people themselves are interested and the urge to make them successful comes from them. Although it is proposed to provide funds in the first instance to set up a government organization the work of voluntary organizations and societies must not be lost sight of. There are few such at present but as the work on these services develops it is hoped that many more voluntary organizations will spring into being and that through these the enthusiasm of the educated elite of the country will be roused and in this way they will come to realize that Nigeria or Africa as a whole cannot make any progress worthy of the name unless it is producing leaders who see themselves as stewards of knowledge which must be shared among the masses.

APPENDIX XIX

TOWN PLANNING AND VILLAGE RECONSTRUCTION

In any scheme of development for a country of the size and present condition of Nigeria, the importance of improving amenities in the towns and the villages so as to assist in alleviating the living conditions of the population must be of first importance. Many of the development schemes proposed in this ten-year plan, such as water supplies, roads, provision of dispensaries, etc., will assist towards the improvement of these living conditions but this alone will be insufficient if steps are not taken simultaneously for the proper organization of layouts and, where necessary, for the reconstruction of villages and towns in order to improve the general amenities and so that the people may be able to take proper advantage of the various services which will be provided under the schemes within this plan.

2. Considerable assistance has been given by the staff of the Town Planning Adviser to the Resident Minister in inspecting towns which are in serious need of planning and in the preparation of preliminary and in some cases advanced schemes, for improved layouts and extensions. This work will be continued by the Town Planning organization which is being set up under the aegis of the Department of Public Works and the accomplishment of work on the smaller scale required in villages will be materially assisted by the Development Officers provided under the scheme described in Appendix XX and the Social Welfare activities described under Appendix XVIII.

3. In the case of the larger townships, consideration is being given to the enactment of legislation which will provide for the setting up of Planning Authorities with powers vested in them by the Governor in order to accomplish the work of replanning and laying out of townships. These powers will also be extended to Native Authorities to deal with villages and other areas where necessary. It is also hoped that in the course of time some assistance in planning work may be made available through research work done by sociologists under the Sociology Research scheme now under consideration in the Colonial Office, while some voluntary assistance from religious and other bodies will, no doubt, be available in some places, particularly in connection with the reconstruction of villages.

4. The over-all cost of replanning towns and villages in Nigeria cannot be estimated with any degree of accuracy until individual schemes have been prepared for each place but there is bound to be a limit to the amount of work which can be done during the forthcoming ten years because of staff limitations and the present shortage of artizans and craftsmen, whose services will also be required for other forms of development. In the main, however, it is intended that the finances required in connection with this particular type of work shall be found either from Native Authority reserves or as loans made either to Native Authorities or to the authorities appointed under the proposed ordinance mentioned above, from funds raised under the proposed Development Loan Ordinance.

5. The importance of the work has been fully recognized by the Secretary of State and, subject to the preparation of schemes for the various towns and villages concerned and the submission of annual estimates, assistance has been promised from the Colonial Development and Welfare Vote during the first five years of this ten-year plan amounting to £156,000.

6. This will be applied in the form of free grants or subsidies towards the cost of work to be done in townships and the work actually accomplished by villagers and Native Authorities in the smaller communities. The limit of assistance in the case of townships will be 33⅓ per cent of the cost of remodelling and the provision of amenities, while in the case of villages a grant up to 10 per cent of the value of the work done by the villagers or Native Authorities themselves will be made in order to provide special amenities such as markets, village halls or such other forms of assistance as may appear to be most appropriate in each individual case.

7. It will also be necessary to consider in certain larger townships the question of housing at sub-economic rentals. This is a difficult problem and will require much further study before any definite pronouncement can be made on the subject.

8. In addition to the assistance promised from the Colonial Development and Welfare Vote, the financing of planning schemes by loan and grant will be dealt with by the Nigeria Local Development Board.

APPENDIX XX

PROVISION OF DEVELOPMENT OFFICERS

A comprehensive Ten-Year Development Plan has been prepared. The programme includes provision for the expansion of the main economic and social services, health, education, agriculture, forestry, veterinary, etc., and for large scale construction work on water development, roads, electrical development, telecommunications, housing and town planning. These programmes, however, will themselves be no more than a framework within which detailed schemes covering each field will have to be planned for the three Chief Commissioners' areas, for each Province and indeed for each Division. This detailed geographical planning will not proceed separately for each branch of development. Comprehensive area plans covering all forms of development and fitting in with the general framework of the territorial development programme will have to be worked out by the administrative and technical officers in each area. Only when such area plans have been worked out can the programme as a whole be translated from paper into action.

2. Successful area planning will accordingly be the key to the execution of the whole development programme. The Provincial Development and Welfare Committees already established will have an important part to play in this work. But it has been found that, without officers allocated whole time to the executive work in connection with development planning, these Committees cannot be fully effective. This work will fall into two classes, the working out of plans and the supervision of their execution on the spot.

3. In the past such work would normally have largely fallen to the members of the administrative service to carry out and, no doubt, what may be termed the general staff work of planning in each area will fall to them. But both the Administration and the technical departments lack the resources in manpower under present conditions to deal with the vast amount of subordinate work, both in planning and in the execution of plans which will be required. The Administration is already over twenty-five per cent down on its established strength and will be further heavily depleted soon when large numbers of officers are due to retire. Moreover, quite apart from the development programme, an increase in establishment for other purposes is likely to be necessary shortly. It is clear therefore that it will take a considerable time after the war to bring the administration up to its necessary strength, even without taking into account any extra requirements for the development programme. Furthermore, owing to the fact that during the war all training of men to staff the technical departments has been virtually suspended, there is a grave shortage of trained Agricultural, Veterinary and Forestry Officers. Nor is there any possibility, during the next five years, of such men being forthcoming in numbers adequate to do much more than replace wastage of existing trained staff.

4. A Plan has therefore been prepared whereby a number of temporary appointments of Development Officers will be made. These officers will not be appointed to the pensionable establishment. The majority of them will work under the orders of Residents or District Officers, but some with specialized experience

and in some cases specialized training will be posted to the technical departments. They will normally be required to perform one or more of the following functions:—

(*a*) to relieve administrative or technical officers of some of their routine duties in order to free them for work in connection with the planning and execution of development schemes;

(*b*) to undertake subordinate office or field work in connection with the local planning and execution of development schemes;

(*c*) to supervise in the field the execution of development schemes under the general direction of the local administrative or technical officers. Such supervisory work might include the supervision of road construction, water development or rural housing and improvement schemes, or even schemes in the medical or agricultural spheres;

(*d*) to train African staff to take over the duties of development officers in due course.

5. There is a reason why the staff required for this part of the work on the planning and execution of development should be recruited on a temporary rather than a permanent basis. This work should be largely entrusted to Africans, but at present there are exceedingly few qualified Africans available. It is reasonable to expect that as a result of the education programme included in the general plan more and more Africans will come forward suitable for this local development work in the Provinces and Divisions. It is important therefore that, as far as the subordinate side of the work is concerned, any European appointments should be on a temporary basis.

6. The terms of appointment have been carefully worked out in consultation with the Appointments Department of the Colonial Office and the proposals fit well into the general scheme for recruitment for the Colonial Service, under which some officers will be appointed on a permanent basis and others temporarily under contract.

7. It is proposed that the salary should be on the incremental scale £500 × 15 to £530 × 20 to £590 × 30 to £800. In accordance with the arrangement proposed for the general recruiting scheme, war service would be taken into account in determining the point of entry into the scale.

8. The period of appointment will be for ten years, with the option on either side to break at the end of the 2nd, 5th or 7th years. The posts will not be pensionable, but a gratuity will be payable on the termination of an officer's appointment based upon £25 for each completed period of three months' service, including approved leave. Leave, passages and similar privileges would be the same as for members of the permanent establishment.

9. The rate of recruitment of these officers will depend entirely on the number of suitable candidates coming forward. It is proposed that a total of 100 will eventually be required, at a total cost over the ten-year period of £895,500. A large measure of assistance towards the cost of these officers has already been promised from the Colonial Development and Welfare Vote and it is confidently expected that further assistance will be forthcoming.

10. It has recently become evident that the full requirements of men of this calibre for the proper working of the development

plan will exceed 100 since the " field " development departments, Agriculture, Veterinary and Forestry, will need to supplement their qualified staffs with less fully qualified men during the earlier stages of the work. The probability is therefore that the total recruitment of development officers will approach 140, some of whom will be provided for under departmental schemes. The length of time during which such an establishment of these men will need to be retained will depend entirely upon the supply of adequately educated or trained Africans to replace them.

11. The estimated cost, over ten years, of the first 100 of these officers is shown in Table XV.

APPENDIX XXI

THE COLLECTION OF STATISTICS AS IT AFFECTS THE DEVELOPMENT PROGRAMME

By A. M. Macleod Smith

It is now generally recognized throughout the civilized world that, in modern times, the complicated business of government cannot be conducted without extensive statistical information relating to all aspects of the National life. In modern conditions the necessity of reliable statistics is as great in a backward country like Nigeria as in a highly civilized state. Government policies are now being shaped to meet a world-wide demand for the betterment of economic and living conditions. The need to implement such a policy must inevitably entail a considerable degree of nationally controlled economic planning which is impossible without adequate statistics. The truth of this statement can be amply borne out by local examples. To mention one only: the scientific management of food policy and price fixing of locally grown foodstuffs has been rendered virtually impossible by lack of knowledge of the agricultural production of this country and entirely conflicting data on the costs of production of the staple crops.

2. Adequate statistics are essential to efficient administration: they become of even more vital importance as soon as Government has decided on a large scale plan of economic and welfare development. In the first place it is essential to have accurate knowledge of the size of the population and its distribution. It is also necessary to have a universal system of vital statistics in order to ascertain the rate of increase or decrease of the population. In the second place it is vital to have accurate figures of both external and internal trade, the volume of production of industries and agriculture, and the corresponding costs of production in order to determine the most profitable channels of expenditure of development funds. In the third place it is necessary to amass comprehensive statistical data on the conditions of life of the people in order to assess the effect of Government sponsored and other welfare schemes on their daily lives and so to determine the types of welfare which can be most advantageously expanded. To take but a very simple example: when planning the development of roads or railways it is essential to know the size of the population which the proposed routes are to serve and the volume of traffic which they can be expected to carry. Such knowledge cannot be accurately gained without adequate statistics of population, internal trade and production.

3. No very prolonged study of existing Nigerian statistics is required to show that they are entirely inadequate for the purposes of large scale development planning. We do not even know what the population of the country is. The population is estimated either from the 1931 Census or from tax figures. The only part of the 1931 census which could in reality be called a census was that devoted to Lagos. For the rest of the Country the Census officers had to rely for the most part on existing data. Owing to the highly organized Native Administrations in the Northern Provinces the figures obtained for this part of Nigeria were probably a reasonable estimate. As for the South, the data in the Western Provinces was very mediocre and in the Eastern Provinces practically non-existent. For this reason the 1931 census amounted to very little more than enlightened guesswork and for this reason it has met with scathing criticism both in and outside Nigeria. It might be argued that, in

Nigeria, the methods of tax collection are sufficiently efficient to base a reasonably accurate estimate of population on them. But such estimates cannot be relied upon because the methods of compilation inevitably entail an inherent bias due to the strong incentive to tax evasion. In any case, until estimates based on tax figures can be compared with those obtained by a properly conducted census there is no means of assessing their accuracy scientifically, and the question must inevitably remain one of pure personal opinion. The complete lack of adequate vital statistics outside Lagos has meant that no one has any idea of the rate of increase of the population of Nigeria, though there may be unmistakable signs that it is increasing As far as trade and production statistics are concerned it is true that the Nigerian External Trade, Railway and Mining statistics compare favourably with any other colony. The Forestry Department have also devoted much careful thought to the subject of statistics which is likely to lead to excellent results. On the other hand there is very little information on the volume and direction of internal trade, and no data with which to compile an annual census of industrial production. There is fragmentary information on agricultural production, but no overall picture. Employment and unemployment figures, without which it is impossible to plan the utilisation of available manpower to the best advantage, are entirely inadequate. The only cost of living index compiled relates solely to Lagos. There are grave doubts as to the validity of the original data on which this index was based and it seems certain that the weighting system used will have to be revised. An even more serious factor in the situation, however, is that there has been a tendency to express changes in the cost of living outside Lagos in terms of the Lagos index. In practice the mode of life of Lagos differs widely from the mode of life in many other parts of the country and the two are simply not comparable The only logical solution to the problem is to inaugurate a series of cost of living enquiries in those areas where the mode of life is roughly the same and calculate a series of cost of living indexes relating to specific geographical areas rather than one comprehensive index for Nigeria as a whole. In addition to this there has as yet been no attempt to compile a wholesale price index in spite of the fact that this type of index is a most useful and sensitive economic barometer which very often betrays a change in the trend of trade before any other sign is noticeable.

4. The present Nigerian statistics are often inaccurate and there are several serious gaps in the statistical framework which remain to be filled. The greatest criticism which can be made is of the almost complete lack of co-ordination in deciding what statistics should be compiled, how they should be collected and how they should be presented when collected. This is largely an organizational problem. The result is that statistics are at present compiled in a haphazard manner to meet purely administrative needs. This inevitably leads to gaps in essential statistical knowledge and unnecessary duplication of work as between Departments A further result is that a great deal of the information obtained never sees the light of day and Commerce and the general public, who could use the information, are not given an opportunity of doing so.

Measures taken to remedy the situation

5. The Development Secretary, soon after his arrival in 1944 was quick to realise that Development planning would be gravely handicapped if there was no improvement in the methods of collection of statistics. His Excellency the Governor therefore decided that the Canadian Government should be requested to send an expert to Nigeria to advise on the setting up of a proper statistical organization. Canada was chosen for this purpose because that

country's official statistics are probably far in advance of any other country. After somewhat protracted negotiations with the Canadian Government it was eventually arranged that an officer should be sent to Canada during the Autumn of this year to study Canadian methods and that he should return to Nigeria with Mr Herbert Marshall, Acting Dominion Statistician to the Government of Canada, who was the expert chosen by the Canadian Government to carry out the proposed programme. Before his departure on leave in May, the officer chosen to go to Canada prepared a fairly comprehensive review of the present statistical situation and this was sent to Mr Marshall together with numerous examples of the statistics at present being compiled. Unfortunately Mr Marshall, owing to the sudden death of his Chief, could not return to this country with the officer mentioned above. He did, however, prepare a memorandum containing his impressions of Nigeria's statistical needs and made certain recommendations based on his study of the Nigerian material put before him and discussions with the writer of this memorandum.

Recommendations for the future

6. Mr Marshall made three specific recommendations as follows:—

(1) An immediate expansion of the Monthly Trade Summary to include all such existing information which might prove useful and of interest to Commerce and the Public.

(2) The setting up of a central statistical collecting bureau which would ultimately be responsible for the collection, tabulation, publication and analysis of all essential statistics including the decennial census.

(3) The passing of a Statistics Ordinance to empower the central bureau to compel individuals and Firms to disclose information for statistical purposes where it is deemed in the public interest to do so. This Ordinance would contain a secrecy clause which would compel the bureau to keep such information, collected from individuals or firms, secret and would forbid it to publish its results in such a way as to cause the disclosure of information about particular individuals or firms.

The Central Statistical Bureau

7. Mr Marshall's recommendation regarding the central statistical Bureau was based partly on his diagnosis of the faults of the present Nigerian system and partly on Canadian experience. There is no doubt that the existence of some such central statistical collecting agency carries with it several great advantages. On this subject Mr Marshall has written as follows:—

> " In Canada this centralization has been found to yield many advantages. Not only are statistics available for specific fields such as agriculture, industry, prices and cost of living, census and so forth, but the collection of these statistics under one roof is a tremendous advantage when such derivative studies as National Income, or Balance of Payments, have to be made. The work done in these fields can be so directed as to yield the necessary data for the more general studies. It has been found a great convenience to the consumers of statistics to be able to have their need supplied from one source. A Central Statistical Bureau also affords remarkable facilities for economic analysis which is becoming more and more indispensable as a guide to government policy. It is important to note that in centralizing statistics there is no handicap to

administration. When the Bureau (Canadian) was created it took over statistics from many Government Departments. These departments now have much better statistical information than when they collected their own statistics because a central Bureau can bring a larger body of expert opinion to bear on particular statistical problems and it is dominated by the scientific statistical point of view. Its view comprehends administrative needs but goes beyond them."

In addition to the advantages enumerated by Mr Marshall there is no doubt that a central Bureau can, by efficient organization and an intelligent use of calculating machinery, reduce overhead costs in terms of both time and money.

8. Mr Marshall envisages that the Bureau should be under the direction of a Director of Statistics and should be composed of four main branches, Economic, Census and Vital Statistics, Agriculture and Administration and Machinery. The economic branch would deal with external and internal trade, transport, banking and finance, labour and prices and census of industry. The census branch, besides being responsible for these specific subjects would also include statistical work on hospitals, institutions, immigration and crime. A chart is given in the attached schedule which may help to give a completer picture of the suggested organization.

Staff

9. Mr Marshall held that the following basic staff would be essential to the proper working of the central Bureau

(1) Director of Statistics. It was suggested that he should be a senior Administrative officer. Mr Marshall contended that the Director must have extensive knowledge of the country.

(2) An Economist. An economist was deemed necessary on the grounds that he is the best qualified person to lay down what statistics should be compiled and would ensure that methods of collection would be properly co-ordinated. An Economist is also of the greatest value in analysing statistical results so that the maximum advantage can be extracted from the statistics compiled.

(3) A highly trained statistician to organize collection of vital statistics and the Census. It was considered by Mr Marshall that in view of the tremendous organizational problems envolved the employment of a very highly qualified man in these fields would be necessary.

(4) An experienced Agricultural Officer, well acquainted with agricultural conditions, to take charge of agricultural statistics. It was thought advisable to devote a complete branch to this subject in view of the overwhelming importance of agriculture to the economy of the Country.

Other staff, both African and European would also be necessary, but no accurate estimate of numbers can be made until the scheme has been worked out in more detail. It is expected that a large proportion of the staff would ultimately be stationed in the field on duties in connection with sample surveys. Owing to the mass illiteracy prevalent in Nigeria it is expected that a very large proportion of the statistical knowledge gained will be derived from the sampling technique

Programme

10. The following rough programme of work has been suggested:—

(1) The Central Bureau should not attempt too much at first in order to give the European staff adequate time in which to train the African personnel. For this reason statistics which are at present compiled adequately will continue to be collected by the Departments concerned, namely the Customs, Railway, Mines and Forestry.

(2) Immediate steps will be taken to expand the Customs Department Monthly Trade Summary to include all available statistics which are likely to be of interest to Commerce and the General Public.

(3) The Economic Branch will take over the calculation of the cost of living index from the Labour Department as soon as possible and then put in hand cost of living surveys in selected areas in the Provinces with a view to starting a series of indexes to cover the whole of Nigeria. It will also be required to start a series of wholesale and retail price indexes. When this work is sufficiently advanced it will then turn its attention to the improvement of employment and unemployment statistics, and an annual census of industry together with information relating to merchandising and internal transport.

(4) Immediate steps will be taken to devise an adequate method of compiling a reasonable annual estimate of agricultural production, together with surveys to establish the cost of production to the farmer of the main crops of the country.

(5) An attempt will be made to effect a more comprehensive coverage of vital statistics, and preliminary planning for the proposed 1951 Census will be put in train. In this connection it is emphasized that the most serious political problems, raised by the fundamental objection of the indigenous population to being counted, will have first to be overcome.

11. The detailed application of this scheme to local conditions still has to be worked out. It is obviously highly desirable that this phase should be conducted on the advice of an expert who has had some experience in the techniques employed by similar organizations. It is hoped that either Mr Marshall himself or a suitably briefed substitute from the Dominion Bureau of Statistics will be able to come out to Nigeria in five or six months time. In the meantime a preliminary examination into the ways and means of implementing Mr Marshall's proposals is being made.

Cost of the Scheme.

12. It is regretted that no detailed estimate of the cost of these proposals can be made at the present stage. It is almost impossible to assess the cost until it is known exactly what staff will be required, and there are many more details to be filled in before a decision can be reached on this point. The necessary information is not likely to become available until the expert advice expected from Canada is forthcoming. There are, however, several factors which it is certain will exert a powerful influence on the final cost. There is likely to be heavy initial expenditure on equipment for the Bureau. The salaries which will have to be paid to the qualified economist and statistician are likely to be high in order to attract sufficiently able men. The importance of these two appointments in relation to the general scheme is so great that it is essential to offer terms which will attract the best possible men. Finally the cost of the Central Bureau will obviously rise as it develops and takes on more work. The cost will temporarily rise very steeply in any Census year.

SCHEDULE

THE COLLECTION OF STATISTICS AS IT AFFECTS THE DEVELOPMENT PROGRAMME

SUGGESTED ORGANISATION

DIRECTOR OF STATISTICS

- Economist
- Administration and Machinery
- Census and Vital Statistics
- Agriculture

Census and Vital Statistics

- Census
- Vital Statistics, Education
- Hospitals and Institutions
- Immigration and Criminal

External and Internal trade and Transportation

Banking and Finance

Labour and Prices

Census of Industry (Mining, Forestry, Manufacturers, etc.)

Merchandising

Integration and Economic Analysis Balance of Payments, National Income, General Statistics, etc.

APPENDIX XXII

BUILDING PROGRAMME IN CONNECTION WITH DEVELOPMENT PLAN

When the original preliminary outline plan for development in Nigeria was considered in 1944, it was realized that the series of departmental and other schemes contributing to it would involve an amount of building beyond the capacity of the normal Public Works establishment. It was, moreover, necessary that provision in respect of this building programme should be approved in the early stages of the preparation of the main plan in order that engineering and architectural staff might be recruited and the necessary orders placed for building materials, plant and equipment; particularly because, although it might be expected that some engineering and architectural staff would be available in the near future, it will take some four to five years to build up the Department of Public Works to a point where the annual building capacity will be adequate to cover the needs of the several departmental and other programmes.

2. It was therefore decided to make special arrangements and a separate scheme to cover the considerable amount of building work involved and so that special additional temporary engineering and architectural staff could be employed. The estimated cost of building work involved in the Development Plan is about £9,034,000 and, although the cost of some of this is provided for under the individual schemes, the majority has been left for separate financing.

3. When the original outline plan was under consideration it was thought that the major portion of the cost of buildings might be provided from the Colonial Development and Welfare Vote and a preliminary scheme was accordingly made. Subsequently, however, the over-all cost of the plan, as it developed, assumed such proportions that it was decided to amend this preliminary decision and to provide for a large portion of the expenditure on such buildings from loan funds, to be raised by the Nigerian Government, but leaving some assistance to be provided from the Colonial Development and Welfare Vote as well as the cost of the necessary supervisory, engineering and architectural staff and centrally owned plant.

4. Table XVI gives a summary of the annual anticipated expenditure required for buildings under the various schemes within the plan as well as a statement of the annual cost of staff and equipment. Of this total it is expected that assistance will be given from the Colonial Development and Welfare Vote to cover the cost of staff and equipment, the full cost of the buildings connected with technical education and half of the cost of buildings required for health services and agricultural development. In addition to this it is expected that a few of the minor building developments will also be provided from the Colonial Development and Welfare Vote. All of the remaining expenditure shown will be financed from loan funds.

5. The programme as at present set out will, of course, be subject to annual review and to amendment and modification in the light of experience as the various schemes are put into effect. While, however, assistance has been promised from the Colonial Development and Welfare Vote to cover the first five years of expenditure and, although there is every reason to expect that further assistance will be forthcoming from that source after 1951.

the whole programme will be subject to annual review and the submission of each year's programme for consideration of the Secretary of State and the local Legislature.

6. The present estimates have been prepared on the basis of current costs and current methods of construction but the present laboratory service of the Department of Public Works will be expanded, as the result of specialist advice which is being sought and will probably be supplemented by other building research work as time goes on. It is possible that, as the result of such investigations, methods and consequently costs may vary so the present estimates of the programme can in no way be considered as final and, as has been previously stated, the expenditure and annual programme will be subject to review each year. It will be noted that included in this programme is a figure for town planning; this represents the estimated cost of Government building work which may be involved in connection with town planning schemes yet to be formulated and to which reference is made in Appendix XIX.

TABLE I

RURAL WATER SUPPLIES

(Estimates of expenditure and work to be done)

	COSTS								ESTIMATED PROGRESS OF WORK			
	STAFF				EQUIPMENT			TOTAL				
	Engineers and Specialists*		Inspectors and Foremen*		Drills	Vehicles	Labour Materials Minor Plant and Transport		New Rural Water Supplies	Reconditioned Rural Water Supplies	Total number of supplies	Population affected
	No.	Cost	No.	Cost								
		£		£	£	£	£	£				
1944-45	7	1,750	6	1,500	28,000	6,300	450	38,000				
1945-46	7	7,000	10	8,000	24,000	7,800	52,200	99,000				
1946-47	14	10,500	30	20,000	16,000	11,000	96,000	153,500	D.	900	900	1,800	900,000
1947-48	21	17,500	60	45,000	12,000	30,000	144,000	248,500	437	900	900	1,800	900,000
1948-49	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1949-50	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1950-51	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1951-52	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1952-53	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1953-54	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1954-55	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
1955-56	27	27,000	90	90,000	21,000	12,000	300,000	450,000		1,800	1,800	3,600	1,800,000
Total 10 years ..		£244,000		£785,000	196,000	137,000	2,640,000	4,002,000		16,200	16,200	32,400	16,200,000
1956-57 ..	}	—		—	—	—	—	£700,000		1,800	1,800	3,600	1,800,000
1957-58 ..	}											
Final Total ..		—		—				£4,839,000		18,000	18,000	36,000	18,000,000

*Salary and consolidated charges for allowances, passages, etc. (temporary staff).

D 437 is the Colonial Development and Welfare Scheme, under which a free grant of £1,889,000 has been provided to cover expenditure from January, 1945 to March, 1951.

TABLE II

ESTIMATED EXPENDITURE FOR URBAN WATER SUPPLIES

	STAFF				*Plant Instruments & Vehicles*	*Materials, Labour, Transport, Special equipment for installations*	*TOTAL*
	Engineers etc.		*Inspectors etc.*				
	No.	*Cost*	*No.*	*Cost*			
		£		£	£	£	£
1944-45 ..	8	2,000	—	—	7,500	—	} 130,500
1945-46 ..	8	8,000	12	12,000	38,000	63,000*	
1946-47 ..	16	12,000	24	18,000	36,000	81,000	147,000
1947-48 ..	24	20,000	36	30,000	20,000	180,000	250,000
1948-49 ..	32	32,000	50	50,000	30,000	338,000	450,000
1949-50 ..	32	32,000	50	50,000	30,000	338,000	450,000
1950-51 ..	32	32,000	50	50,000	30,000	338,000	450,000
1951-52 ..	32	32,000	50	50,000	30,000	338,000	450,000
1952-53 ..	32	32,000	50	50,000	30,000	338,000	450,000
1953-54 ..	32	32,000	50	50,000	30,000	338,000	450,000
1954-55 ..	32	32,000	50	50,000	30,000	338,000	450,000
1955-56 ..	32	32,000	50	50,000	30,000	338,000	450,000
Ten year Total		£288,000		£448,000	296,000	2,965,000	3,997,000
1956-57	32	32,000	50	50,000	30,000	338,000	450,000
1957-58	32	32,000	50	50,000		338,000	420,000
Grand Total		£352,000		£548,000	326,000	3,641,000	4,867,000

* This amount of £63,000 is included with the £81,000 for 1946-47 in the Summary of Estimates Expenditure from Loan Funds.

TABLE III

ROAD DEVELOPMENT PLAN

Estimates of Cost and Maintenance

	Trunk Roads A and B	Feeder Roads (a)	Staff (b)	Plant, etc.	Total Capital Cost new and improved Roads	Estimated Maintenance Cost of new and improved Roads	
	£	£	£	£	£	£	£
1944-46	65,000	30,000	13,000	56,000	164,000	1,400	—
1946-47 ..	60,000	120,000	24,000	62,000	266,000	6,300	—
1947-48 ..	150,000	200,000	43,000	82,000	475,000	22,400	—
1948-49 ..	260,000	200,000	60,000	65,000	585,000	51,300	—
1949-50 ..	260,000	200,000	66,000	59,000	585,000	85,500	—
1950-51 ..	240,000	240,000	66,000	34,000	580,000	121,400	—
1951-52 ..	240,000	240,000	66,000	20,000	566,000	159,000	—
1952-53 ..	240,000	240,000	66,000	10,000	556,000	197,600	—
1953-54 ..	240,000	240,000	66,000	7,000	553,000	235,800	—
1954-55	240,000	260,000	66,000	5,000	571,000	273,000	—
1955-56	240,000	260,000	66,000		566,000	313,000	—
Total, ten years, 1946-56	2,170,000	2,200,000	589,000	344,000	5,303,000	1,465,300	6,768,300
1956-57	240,000	260,000	66,000	—	566,000	353,500	—
1957-58	110,000	260,000	49,000	—	419,000	394,000	—
1958-59	—	260,000	34,000	—	294,000	426,000	—
Total, 1956-59 £	350,000	780,000	149,000	—	1,279,000	1,173,500	—
Grand Total £	2,585,000	3,010,000	751,000	400,000	6,746,000	2,640,200	—

NOTES.—(*a*) Includes Native Administration Share = Half of total.
(*b*) Includes cost of Consultants and allowances and passages.

TABLE IV

NIGERIA MARINE — TEN-YEAR DEVELOPMENT PLAN 1946-47 — 1955-56

	Estimated Total Cost	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56
A.—Personal Emoluments — Temporary Staff	£	£	£	£	£	£	£	£	£	£	£
1. 10 Marine Officers at £400-840	75,300	6,000	6,600	6,900	7,200	7,500	7,800	8,100	8,400	8,400	8,400
2. 9 Engineer Officers at £400-840 (*See Note (a)*)	67,770	5,400	5,940	6,210	6,480	6,750	7,020	7,290	7,560	7,560	7,560
3. African Technical Staff	160,550	5,990	11,840	14,480	15,440	16,400	17,360	18,320	19,280	20,240	21,200
Allowances											
4. Local and Separation	6,840	1,824	1,140	1,140	1,140	1,140	456	—	—	—	—
5. Safe navigation and good running	6,120	612	612	612	612	612	612	612	612	612	612
Other Charges											
6. Local transport, travelling and Bush Allowance.	11,220	1,122	1,122	1,122	1,122	1,122	1,122	1,122	1,122	1,122	1,122
7. Outfit allowances	1,140	1,140	—	—	—	—	—	—	—	—	—
8. Passages—officers and wives	22,800	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280
Total £	351,740	24,368	29,534	32,744	34,274	35,804	36,650	37,724	39,254	40,214	41,174

NOTE.—(*a*) Officers will commence within the scale according to experience and qualifications.

TABLE IV—*contd.*

NIGERIA MARINE — TEN-YEAR DEVELOPMENT PLAN 1946-47—1955-56

	Estimated Total Cost	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56
B.—New Works (Cost of Labour, Material and Fuel)	£	£	£	£	£	£	£	£	£	£	£
1. Deepening Lagos Harbour	180,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
2. Escravos Bar	95,000		19,000	19,000	19,000	19,000	19,000	—	—	—	—
3. Burutu Channel	70,000	14,000	14,000	14,000	14,000	14,000	—	—	—	—	—
4. Bonny Bar and River	57,000	—	—	—	—	—	—	19,000	19,000	19,000	—
5. Calabar Bar and River	95,000		19,000	19,000	19,000	19,000	19,000	—	—	—	—
6. Lekki Flats	18,000		3,000	3,000	3,000	3,000	3,000	3,000	—	—	—
7. Stubbs Creek	10,000	5,000	5,000	—	—	—	—	—	—	—	—
8. Opobo-Eket Creek	8,000			4,000	4,000	—	—	—	—	—	—
9. Sheba Bank	8,000	4,000	4,000	—	—	—	—	—	—	—	—
10. Atissa Creek	12,000					3,000	3,000	3,000	3,000	—	—
11. Nun River	18,000					3,000	3,000	3,000	3,000	3,000	3,000
12. Onitsha Island	4,000	2,000	2,000	—	—	—	—	—	—	—	—
13. Artijere Canal	2,000	—	—	1,000	1,000	—	—	—	—	—	—
14. Alafa-Akata Canal	2,000	—	—	—	—	1,000	1,000	—	—	—	—
15. Igbogada Canal	2,000	1,000	1,000	—	—	—	—	—	—	—	—
16. Omu Creek Canal (*see* Note (*b*))	750	750	—	—	—	—	—	—	—	—	—
17. Opening Waterways	30,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
18. Surveys	12,450	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,200
Total £	624,200	49,000	89,250	82,250	82,250	84,250	70,250	50,250	47,250	44,250	25,200

(*b*) Total cost £2,000 less £1,250 provided in 1945-46 estimates.

TABLE IV — *contd.*

NIGERIA MARINE —TEN-YEAR DEVELOPMENT PLAN 1946-47—1955-56

	Estimated Total Cost	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56
	£	£	£	£	£	£	£	£	£	£	£
C.—New Plant and Vessels											
1. 1 Reclamation Vessel (*see* Note (*c*))	250,000	—	—	250,000	—	—	—	—	—	—	—
2. 2 Dredgers (*see* Note (*d*))	831,500	418,500	413,500	—	—	—	—	—	—	—	—
3. Replacement of 1 Collier (*see* Note (*e*))	140,000	140,000	—	—	—	—	—	—	—	—	—
4. Replacement of 2 Bar Tugs (*see* Note (*f*))	134,000	67,000	67,000	—	—	—	—	—	—	—	—
5. Replacement of Harbour Tug (*see* Note (*g*))	40,000	40,000	—	—	—	—	—	—	—	—	—
6. Replacement of Grab Dredger (*see* Note (*h*))	40,000	—	40,000	—	—	—	—	—	—	—	—
7. Replacement of Life Boat (*see* Note (*i*))	6,000	6,000	—	—	—	—	—	—	—	—	—
8. 1 Survey Launch with shallow water "Echo" sounding equipment.	25,000	25,000	—	—	—	—	—	—	—	—	—
9. 1 Echo sounder for "Dayspring"	500	500	—	—	—	—	—	—	—	—	—
10. Minor equipment	25,000	25,000	—	—	—	—	—	—	—	—	—
11. Survey Instruments, current meters, etc.	5,000	5,000	—	—	—	—	—	—	—	—	—
12. Buoys, Beacons and Lighthouses	45,000	11,000	16,500	10,000	7,500	—	—	—	—	—	—
13. Unallocated	1,000,000	—	—	—	—	—	200,000	200,000	200,000	200,000	200,000
Total, New Plant and Vessels £	2,542,000	737,500	537,000	260,000	7,500	—	200,000	200,000	200,000	200,000	200,000

(*c*) Total cost £270,000, less £20,000 being provided by Marine Renewals Fund — £250,000.
(*d*) Total cost £931,500, less £100,000 .. .. £831,500.
(*e*) Total cost £160,000, less £20,000 .. .. £140,000.
(*f*) Total cost £154,000, less £20,000 .. .. £134,000.
(*g*) Total cost £ 50,000, less £10,000 .. .. £ 40,000.
(*h*) Total cost £ 50,000, less £10,000 .. .. £ 40,000.
(*i*) Total cost £ 11,000, less £ 5,000 .. .. £ 6,000.

Note.—The expenditure on [illegible] for the second five years has not yet been decided.

TABLE V

MEDICAL AND HEALTH SCHEME

Summary of Total Expenditure over Ten Years

	Recurrent Expenditure	*Special Expenditure*	*Buildings (under Building Scheme)*	*Totals*
	£	£	£	£
Nurses Training Schools	91,822	1,500	23,450	116,772
Midwives Training Schools	91,822	1,500		93,322
Health Visitors Training School	33,070	500	10,650	44,220
Rural Health Centres	326,048	16,460	149,000	491,508
Epidemic and Endemic Diseases Treatment Units.	729,760	130,396	85,500	945,656
Pharmacy School	28,208	600	16,300	45,108
General Hospitals	1,687,330	634,956*	2,483,250	4,805,536
Mental Hospitals	227,980	†	335,000	562,980
Maternity Hospitals	31,540	†	109,400	140,940
Tuberculosis Sanatoria	48,200	†	48,000	96,200
Administrative Staff	165,200			165,200
Specialist Staff	679,440			679,440
Relief Staff	78,100			78,100
Temporary Medical Staff (Existing Rural Dispensaries).	52,345	6,000		58,345
Total £	4,270,865	791,912	3,260,550	8,323,327
Grand Total £ Expenditure except buildings		5,062,777		

*Includes £138,800 for vehicles for ambulance services; the remainng £496,156 is for medical and surgical equipment and instruments for mental hospitals, maternity hospitals and tuberculosis sanatoria, as well as for general hospitals.

†*Vide* note above.

TABLE VI
ESTIMATED EXPENDITURE FOR LEPROSY CONTROL

	1945–46	1946–47	1947–48	1948–49	1949–50	Estimated Total Cost
	£	£	£	£	£	£
Personal Emoluments						
1 Senior Leprosy Officer	1,400	1,250	1,300	1,350	1,400	**6,700**
14 Medical Officers	5,370	6,020	8,200	9,090	10,670	**39,350**
8 Nursing Sisters	1,690	1,640	2,460	2,850	3,340	**11,980**
1 Senior Leprosy Control Officer	630	660	690	720	720	**3,420**
10 Leprosy Control Officers	2,780	2,860	3,330	3,810	4,710	**17,490**
5 Inspectors of Works, Electrical and Mechanical Engineers (Temporary).	500	1,500	2,500	2,500	2,500	**9,500**
Clerical and Technical Staff	7,235	8,305	10,210	12,710	15,615	**54,075**
Staff Pay	1,095	1,200	1,650	1,800	2,100	**7,845**
Local and Separation Allowances	1,270	1,450	1,960	2,170	1,490	**8,340**
Cost of Living Allowance	1,050	1,435	1,980	2,500	3,195	**10,100**
Total, Personal Emoluments	23,020	26,320	34,220	39,500	45,740	**168,800**
Other Charges						
Passages and Outfit Allowances	2,540	2,980	4,050	4,430	5,150	**19,150**
Transport and Travelling	2,960	3,100	3,600	4,100	4,600	**18,360**
Office and General	2,090	2,130	2,490	2,850	3,200	**12,760**
Labour	1,060	1,150	1,400	1,650	1,700	**6,960**
Maintenance and Repairs, including Fuel, Light and Water	1,290	2,200	4,050	6,750	8,950	**23,840**
Medical Supplies and Diets	4,470	5,000	7,400	7,800	9,100	**32,770**
Total, Other Charges	14,410	16,560	22,990	27,580	32,700	**113,840**

TABLE VI—*continued*

ESTIMATED EXPENDITURE FOR LEPROSY CONTROL

	1945–46	1946–47	1947–48	1948–49	1949–50	Estimated Total Cost
	£	£	£	£	£	£
Special Expenditure						
Capital Cost of Buildings, Equipment, etc.—						
(a) New Settlements						
Owerri Second Settlement	1,000	17,000	16,000			**34,000**
Wirri Settlement		1,000	13,030	17,000		**31,030**
Western Provinces Settlement			1,000	17,630	18,000	**36,630**
(b) Existing Settlements (improvements and extensions)						
Oji River Settlement	11,100	2,100				**13,200**
Ossomo Settlement	6,550	3,350	2,000			**11,900**
Uzuakoli Settlement	8,500	1,100	2,000			**11,600**
(c) Central Leprosy Unit	1,350	12,770	2,500			**16,620**
Miscellaneous Temporary Buildings	500	830	1,070	1,070	780	**4,250**
Minor Buildings	1,000	1,000	1,000	1,000	1,000	**5,000**
Motor Vehicles	4,000	1,500	1,000	500		**7,000**
Total, Special Expenditure £	34,000	40,650	39,600	37,200	19,780	**171,230**
Final Total of Estimated Expenditure £	71,430	83,530	96,410	104,280	98,220	**453,870**

TABLE VII

ESTIMATED EXPENDITURE FOR EDUCATION

		1946–47	1947–48	1948–49	1949–50	1950–51	1951–52	1952–53	1953–54	1954–55	1955–56	Estimated Total Cost
		£	£	£	£	£	£	£	£	£	£	£
Government Institutions												
A.—European Staff, Government Secondary Schools and Teacher Training Centres:—												
(*i*) Salaries		6,500	28,200	35,300	45,300	57,100	80,300	97,500	116,300	136,200	158,700	**761,400**
(*ii*) Allowances		400	1,600	1,800	2,200	2,600	3,700	4,400	5,200	6,000	7,000	**34,900**
(*iii*) Passages		1,000	5,500	6,600	7,400	8,900	12,000	14,800	17,400	20,200	23,500	**117,300**
B.—Various Other Charges, including African Staff Salaries		16,300	41,700	44,300	60,700	46,200	90,000	108,480	121,100	148,700	167,700	**845,100**
C.—Purchase of Military Buildings		60,000	60,000	30,000								**150,000†**
Total	£	84,200	137,000	118,000	115,600	114,800	186,000	225,100	260,000	311,100	356,900	**1,908,700**
Assistance to Voluntary Societies												
D.—Additional Staff:—												
(*i*) Secondary Schools		12,500	25,500	39,000	53,000	60,000	62,200	64,400	67,040	69,680	72,320	**525,640**
(*ii*) Teacher Training Centres		9,600	19,600	30,000	40,800	52,000	54,000	56,000	58,400	60,800	63,200	**444,400**
E.—Buildings and Equipment:—												
(*i*) Secondary Schools		100,000	100,000	100,000	100,000	100,000	100,000	60,000				**660,000***
(*ii*) Teacher Training Centres		100,000	100,000	100,000	100,000	90,000	30,000					**520,000***
Total	£	222,100	245,100	269,000	293,800	302,000	246,200	180,400	125,440	130,480	135,520	**2,150,040**
Grand Total	£	306,300	382,100	387,000	409,400	416,800	432,200	405,500	385,440	441,580	492,420	**4,058,740†**

* The items so marked totalling £1,330,000 are intended to be financed from loans raised under the Development Loan Ordinance and any future Loan Ordinance.
† Excludes cost of Buildings amounting to £1,938,600 for which provision is made under the Building Scheme (Table XVI and Appendix XXII).

TABLE VIII

ESTIMATED EXPENDITURE FOR TECHNICAL EDUCATION

	1945–46	1946–47	1947–48	1948–49	1949–50	1950–51	1951–52	1952–53	1953–54	1954–55	1955–56	Estimated Total Cost (10 Years)
Personal Emoluments	£	£	£	£	£	£	£	£	£	£	£	£
Technical and Clerical Staff Salaries, including Allowances	19,133	25,907	41,617	53,047	59,275	60,744	64,361	68,162	74,389	79,818	82,712	**610,032**
Other Charges												
Passages	1,800	2,880	5,940	9,090	11,070	11,520	11,790	11,700	11,970	12,240	12,240	**100,440**
Other Expenditure												
Maintenance and Equipment, including maintenance of studio :—												
Headquarters and Provincial	210	851	333	517	414	1,610	644	575	1,092	575	575	**7,186**
Technical Institutes	15,297	6,462	7,652	9,522	13,514	12,659	11,744	11,842	12,764	13,302	13,302	**112,763**
Yaba Trade Centre	12,460	9,865	9,498	8,947	7,052	7,177	6,983	7,263	7,386	7,263	7,202	**78,636**
Kadúna Trade Centre		3,024	3,878	4,341	5,011	4,198	4,249	4,222	5,244	4,152	4,175	**42,494**
Enugu Trade Centre		10,529	3,024	3,878	4,341	5,011	4,198	4,249	4,222	5,244	4,152	**48,848**
Handicraft Instructors, Training Centre	—	4,314	2,553	3,106	3,838	4,319	4,309	3,621	3,039	2,639	2,589	**34,327**
Handicraft Centres	—	—	—	—	—	—	21,602	6,652	27,657	12,707	12,109	**80,727**
£	27,967	35,045	26,938	30,311	34,170	34,974	53,729	38,424	61,404	45,882	44,104	**404,981**
Total £	48,900	63,832	74,495	92,448	104,515	107,238	129,880	118,286	147,763	137,940	139,056	**1,115,453**

Excludes cost of Buildings amounting to £421,000 for which provision is made under the Building Scheme (Table XVI and Appendix XXII).

TABLE IX

GASKIYA CORPORATION

SUMMARY OF ESTIMATED EXPENDITURE

	1945-46	1946-47	1947-48	1948-49	Total
	£	£	£	£	£
A.—CAPITAL EXPENDITURE					
Buildings, Machinery, Equipment, etc. ..	50,000	46,500	10,850	—	**107,350**
B.—PRELIMINARY EXPENDITURE					
(*i*) Staff	8,465	—	—	—	**8,465**
(*ii*) Allowances	3,180	—	—	—	**3,180**
(*iii*) Other Charges	2,055	—	—	—	**2,055**
£	13,700	—	—	—	**13,700**
C.—RECURRENT EXPENDITURE					
Anticipated deficit on Working Account	—	21,500	17,500	13,500	**52,500**
Total Expenditure £	63,700	68,000	28,350	13,500	**173,550**

The question of any further assistance after 1948-49 will be considered in the light of the first three years operations. As yet, there has been no promise of further help from the Colonial Development and Welfare Vote.

A loan of £25,000 has been made under the Colonial Development and Welfare Vote to cover working requirements for the first three years of active production. The loan which is interest free for three years is repayable in ten years.

TABLE X

AGRICULTURE DEVELOPMENT SCHEME 1946-47 1955-56

SUMMARY OF ESTIMATED EXPENDITURE*

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Estimated Total Cost	Remarks
	£	£	£	£	£	£	£	£	£	£	£	
A.—GENERAL AGRICULTURAL SECTION												
Staff												
1. Trained European Agricultural Staff and Specialists (2 Principal Agricultural Officers, up to 10 Senior Agricultural Officers, up to 40 Agricultural Officers, up to 20 Agricultural Superintendents, up to 30 Specialists, 1 Agricultural Engineer, up to 5 Secretaries, and 2 Statisticians):—												
(*a*) Salaries	9,900	16,900	23,300	29,700	38,100	43,300	50,500	57,700	64,900*	72,100	**406,400**	
(*b*) Allowances	1,500	2,160	2,820	3,480	4,140	4,740	5,340	5,940	6,540	7,140	**43,800**	
(*c*) Passages	1,440	2,400	3,280	4,160	5,040	5,840	6,640	7,440	8,240	9,040	**53,520**	
2. African Clerical and Technical Staff, etc. (up to 4 Office Assistants and Chief Clerks, up to 110 First, Second and Third Class Clerks, up to 120 Senior and Assistant Agricultural Officers, up to 640 Agricultural Assistants, Field Overseers and Artisans, up to 10 Laboratory Attendants, and up to 60 Messengers):—												
(*a*) Salaries	7,024	13,998	21,222	28,096	35,120	41,994	49,318	56,192	63,666	70,690	**387,220**	
(*b*) Allowances	2,760	5,520	7,280	11,040	13,800	16,560	19,320	22,080	24,840	27,600	**150,800**	
3. Recurrent Expenditure in connection with Agricultural Development Schemes (*vide* Appendix XII) (includes Local Transport and Travelling, Labour and Office and General)	36,340	32,860	30,440	61,020	57,600	54,240	75,880	72,520	69,160	65,800	**555,860**	
£	58,964	73,838	88,342	137,496	153,800	166,674	206,998	221,772	237,346	252,370	**1,597,600**	

TABLE X—*continued.*

AGRICULTURE DEVELOPMENT SCHEME—1946-47–1955-56

SUMMARY OF ESTIMATED EXPENDITURE*

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Estimated Total Cost	Remarks
B.—PRODUCE INSPECTION SECTION	£	£	£	£	£	£	£	£	£	£	£	
Staff												
4. Trained European Staff (1 Assistant Director, 2 Principal Agricultural and 20 Superintending Inspectors and Inspectors) :—												
Salaries and Allowances	4,300	5,300	6,300	7,300	8,300	9,300	10,300	11,300	12,300	13,300	**88,000**	
5. African Staff (up to 20 Sub-Inspectors, up to 100 Produce Examiners, and up to 50 Clerks) : —												
Salaries and Allowances	1,200	2,400	3,600	4,800	6,000	7,200	8,400	9,600	10,800	12,000	**66,000**	
6. Recurrent Expenditure (Local Transport and Travelling, Labour and Office and General)	2,000	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	**37,000**	
£	7,500	10,700	13,900	16,100	18,300	20,500	22,700	24,900	27,100	29,300	**191,000**	
C.—AGRICULTURAL SCHOOL												
7. European Staff (1 Assistant Director) :—												
(*a*) Salaries	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	**12,000**	
(*b*) Passages	80	80	80	80	80	80	80	80	80	80	**800**	
8. African Staff (2 Masters) :—												
(*a*) Salaries	300	300	300	300	300	300	300	300	300	300	**3,000**	
(*b*) Allowances	30	30	30	30	30	30	30	30	30	30	**300**	
9. Recurrent Expenditure (Local Travelling and Transport, Labour, Office and General, etc.)	1,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	**19,000**	
	2,610	3,610	3,610	3,610	3,610	3,610	3,610	3,610	3,610	3,610	**35,100**	
Total, Agricultural Development Scheme	£	£	£	£	£	£	£	£	£	£	**1,823,700**	

* Buildings (offices and quarters) required in connection with this scheme are provided for under the Building Programme for Development (Appendix XXII, Table XVI).

TABLE XI

VETERINARY DEVELOPMENT SCHEME 1946-47 – 1955-56

Summary of Estimated Expenditure

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Total	Remarks
	£	£	£	£	£	£	£	£	£	£	£	
A.—CAPITAL EXPENDITURE*												
1. Livestock Improvement Centres (up to 5)	5,000	5,000	10,000	5,000					—	—	**25,000**	
2. Immunization Camps (up to 10)	12,000	12,000	6,000						—	—	**30,000**	
£	17,000	17,000	16,000	5,000					—	—	**55,000**	
B.—SPECIAL EXPENDITURE												
3. Refrigeration and Dehydration Plant; Laboratory Equipment and Drugs; Field Refrigerators (up to 25); Equipment and Apparatus for Trypanosomiasis Campaign; Tents and Replacements; Farm and Technical Equipment and Stock for Livestock Improvement Centres	6,650	2,500	2,200	1,025	25	75	75	75	75	50	**12,750**	
4. Motor Vehicles (up to 28 Kitcars and up to 9 motor cycles with sidecars)	4,250	3,750	2,125	1,500	500			1,750	1,250	—	**15,125**	
£	10,900	6,250	4,325	2,525	525	75	75	1,825	1,325	50	**27,875**	
C.—STAFF												
European												
5. Trained Veterinary Staff (up to 3 Assistant Directors; up to 5 Veterinary Officers; up to 2 Research Officers):—												
Salaries	5,200	6,800	7,600	8,400	9,200	9,200	9,200	9,200	9,200	9,200	**83,200**	
6. Laboratory Technician (one) and Hides and Skins Inspectors (up to 3):—												
Salaries	1,100	1,700	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	**21,200**	
7. Development Officers (up to 17)—(Temporary)												
Salaries	3,600	7,800	9,600	10,200	10,200	10,200	10,200	10,200	10,200	10,200	**92,400**	
8. Allowances	1,320	1,680	1,860	1,860	1,860	1,800	1,740	1,740	1,740	1,740	**17,340**	
9. Passages	1,440	2,400	3,000	3,360	3,600	3,720	3,720	3,720	3,720	3,720	**32,400**	
10. Gratuities for Development Officers (item 7 above)	—	—	—	—	—	—	—	—	—	13,600	**13,600**	
Carried forward £	12,660	20,380	24,360	26,120	27,160	27,220	27,160	27,160	27,160	40,760	**260,140**	

* Does not include sum of £19,000, estimated cost of construction of Hostel for Development Officers, residences for one Research Officer, two Veterinary Officers and one Laboratory Technician, quarters for African staff and Kit Store at Vom provided for in the Building Programme (Appendix XXII, Table XVI).

TABLE XI—*continued*

VETERINARY DEVELOPMENT SCHEME — 1946-47 – 1955-56

SUMMARY OF ESTIMATED EXPENDITURE

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Total	Remarks
C. — STAFF—*contd.*	£	£	£	£	£	£	£	£	£	£	£	
Brought forward	12,660	20,380	24,360	26,120	27,160	27,220	27,160	27,160	27,160	40,760	**260,140**	
African												
11. Technical Staff (up to 30 Veterinary Assistants ; up to 6 Microscopists ; up to 18 Veterinary Inoculators ; up to 10 Sub-Inspectors of Hides and Skins ; up to 5 Artisans ; up to 3 Motor Drivers) :—												
(*a*) Salaries	1,230	2,830	3,790	4,360	4,410	4,520	4,630	4,750	4,860	4,970	**40,290**	
(*b*) Allowances	520	1,210	1,680	1,800	1,970	2,020	2,040	2,040	2,040	2,040	**17,360**	
£	14,410	24,420	29,830	32,220	33,540	33,760	33,830	33,950	34,060	47,770	**317,790**	
D. — RECURRENT EXPENDITURE												
12. Local Transport, Travelling and Bush Allowances	600	1,300	1,900	2,100	2,200	2,200	2,200	2,300	2,400	2,400	**19,600**	
13. Upkeep of Motor Vehicles	600	1,300	1,900	2,100	2,200	2,200	2,200	2,300	2,400	2,400	**19,600**	
14. Maintenance of Livestock Improvement Centres (up to 5 Centres)	700	1,400	2,800	3,500	3,500	3,500	3,500	3,500	3,500	3,500	**29,400**	
15. Labour	600	1,300	1,900	2,100	2,200	2,200	2,200	2,300	2,400	2,400	**19,600**	
16. Vaccine Production	500	500	500	500	500	250	250	250	100	100	**3,450**	
17. Drugs (including special Trypanocidal drugs and Anthelmintics) ; Equipment ; Fuel ; Hides and Skins Processing Experiments	3,860	6,470	11,450	11,500	6,500	6,400	6,400	3,900	3,900	3,900	**64,280**	
18. Experimental Animals ; Purchase of Stock ; Compensation to Owners for Stock Slaughtered.	2,850	4,100	2,600	2,650	2,150	1,950	1,950	1,700	1,700	1,550	**23,200**	
£	9,710	16,370	23,050	24,450	19,250	18,700	18,700	16,250	16,400	16,250	**179,130**	
Total, Veterinary Development Scheme .. £	52,020	64,040	73,205	64,195	53,315	52,535	52,605	52,025	51,785	64,070	**579,795**	

TABLE XII

FORESTRY DEVELOPMENT SCHEME—1946 47 1955 56

SUMMARY OF ESTIMATED EXPENDITURE

	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Estimated Total Cost	Remarks
	£	£	£	£	£	£	£	£	£	£	£	
A.—CAPITAL EXPENDITURE*												
1. Forest School—Extension	1,500	6,500	—	—	—	—	—	—	—	—	**8,000**	
2. Experimental Woodworking Shop and Treatment Plant.	—	6,000	—	—	—	—	—	—	—	—	**6,000**	
Total £	1,500	12,500	—	—	—	—	—	—	—	—	**14,000**	
B.—SPECIAL EXPENDITURE												
3. Forest School—Equipment	100	100	100	100	100	100	100	100	100	100	**1,000**	
C.—STAFF												
European												
4. Trained Forest Staff and Specialists (3 Conservators, up to 8 Specialists, up to 58 Assistant Conservators) :—												
(*a*) Salaries	1,800	5,690	9,130	12,945	18,795	22,887	27,164	30,601	35,338	39,275	**203,625**	
(*b*) Allowances	60	420	720	1,200	1,800	2,280	2,760	3,240	3,600	3,960	**20,040**	
(*c*) Passages	240	960	1,680	2,640	3,960	4,920	5,880	6,840	7,560	8,280	**42,9.0**	
African												
5. Clerical and Technical (up to 422) and Messengers (up to 75) :—												
(*a*) Salaries	4,690	7,410	10,572	13,985	16,680	20,409	24,206	27,838	32,292	34,869	**192,951**	
(*b*) Allowances	1,410	3,090	4,860	6,600	7,290	8,700	9,840	10,890	12,090	12,090	**76,£60**	
Total £	8,200	17,570	26,962	37,370	48,525	59,196	69,850	79,409	90,880	98,474	**536,436**	
D.—RECURRENT EXPENDITURE												
6. Local Transport and Travelling and Labour	6,100	9,700	16,000	20,800	24,900	28,500	34,500	39,300	42,900	47,700	**270,400**	
7. Office and General	600	800	400	600	300	500	400	300	400	—	**4,300**	
Total £	6,700	10,500	16,400	21,400	25,200	29,000	34,900	39,600	43,300	47,700	**274,700**	
Total, Forestry Development Scheme £	16,500	40,670	43,462	58,870	73,825	88,296	104,850	119,109	134,280	146,274	**826,136**	

* Houses for additional staff and offices are provided for under the Building Programme (Appendix XXII and Table XVI).

TABLE XIII

FISHERIES DEVELOPMENT SCHEME — 1946-47 – 1950-51

Summary of Estimated Expenditure

	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51	Total
	£	£	£	£	£	£	£
A.—CAPITAL EXPENDITURE*							
1. Offices and Quarters (Temporary Buildings)	1,550	3,500		2,200	2,200	2,000	9,900
B.—SPECIAL EXPENDITURE							
2. Launches (up to three—one each W.P., E.P. and N.P.); Fishing Boats and Engines for.	1,620		7,000	7,000	7,000		21,000
C.—STAFF							
3. European Personnel viz: Fisheries Development Officer (1); Fisheries Officers (up to four); Fish Farmer (1); Master Fishermen (2):							
(*a*) Salaries	1,417	3,700	3,700	4,000	4,000	5,000	22,100
(*b*) Allowances		240	240	300	360	420	1,560
4. African Clerical and Technical Staff: Clerks (up to six); Fisheries Assistants (up to 12); Messengers (up to three):							
(*a*) Salaries	260	440	460	780	1,100	1,240	4,280
(*b*) Allowances	34	180	260	220	400	446	1,540
Total . . . . £	1,711	4,560	4,660	5,300	5,860	7,106	29,480
D.- RECURRENT EXPENDITURE							
5. Local Transport and Travelling; Office and General	240	340	340	450	620	460	2,450
6. Upkeep of Craft (Launches and Experimental Fishing Boats).		1,000	1,000	2,000	2,000	4,000	10,000
7. Fisheries Development; Maintenance of Experimental Stations; Commercial Fish Farming Experiments.	1,720	4,500	2,500	3,000	1,000	2,780	15,500
8. Scientific Apparatus and Books; Specialised Nets and Equipment.	300	1,000	1,000	1,200	1,400	1,100	6,000
9. Fisheries School: Maintenance of	100	500	500	500	500	400	2,500
Total . . . . £	1,360	7,340	5,340	7,150	5,520	8,740	36,450
Total, Fisheries Development Scheme £	6,241	15,400	16,940	21,940	24,480	15,846	96,830

* Does not include permanent quarters additional to those provided for above for which provision will be made under Public Works Extraordinary Estimates, or out of existing pool of houses.

TABLE XIV

TEXTILE DEVELOPMENT SCHEME

ESTIMATED EXPENDITURE — 5-YEAR PLAN

Item		1946-47 *1st year*	1947-48 *2nd year*	1948-49 *3rd year*	1949-50 *4th year*	1950-51 *5th year*	*Total*	£
	Capital outlay on—						£	£
1	8 houses at £1,200	4,800	4,800				9,600	
*2	8 centres and equipment at £1,200	4,800	4,800				9,600	
3	[illegible]	[illegible]	[illegible]				4,500	
*4	Laboratory and equipment		2,000				2,000	
	Working capital—							
	8 centres at £200	[illegible]	800				1,600	27,400
	Recurrent charges							
	[illegible] Expenses	[illegible]	[illegible]	[illegible]	[illegible]	1,000	5,000	
	[illegible]	200	200	200	200	200	1,000	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	850	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		6,480
*6	[illegible] Superannuation [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	000	2,500	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*16	Passages	400	200	200	200	000	1,000	
*15	Separation Allowances [illegible]	55	1,275	750	250	1,250	3,605	
	Miscellaneous at 15%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*	Outfit Allowances	600	600	[illegible]	[illegible]	[illegible]	[illegible]	
	Loss [illegible] Exchange [illegible]	1,000	1,000	1,000	[illegible]	1,000	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*	Other Recurrent [illegible]	[illegible]	400	[illegible]	[illegible]	[illegible]	1,700	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5,200	
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
*18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12,1	
*19	Install [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	720	
*19	Passages	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		930
	Clerical Assistance	[illegible]	[illegible]	[illegible]	[illegible]	500		2,500
	Total	[illegible]	24,130	13,850	13,600	13,950		90,685

* Items proposed for assistance from Central Development and Welfare Vote.

TABLE XV

ESTIMATED EXPENDITURE FOR DEVELOPMENT OFFICERS

	1944-45 1945-46 *	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Estimated total cost (10 years) *
Personal Emoluments	£	£	£	£	£	£	£	£	£	£	£	£
1 Development Officers (up to 100)	17,500	42,500	53,750	65,000	76,250	87,500	98,750	110,000	110,000	110,000	110,000	599,500
2 Allowances	4,200	9,600	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	116,400
Other Charges												
3 Passages	2,800	7,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	77,600
4 Gratuities					17,000					85,000		102,000
Total	£ 24,500	£ 59,100	£ 73,750	£ 85,000	£ 113,250	£ 107,500	£ 118,750	£ 130,000	£ 130,000	£ 215,000	£ 130,000	895,500

Gratuities are based on the assumption that one-third officers terminate their service during the period 1945-46 to 1950-51 and are replaced immediately. Total gratuities will be:—

	£
100 Officers at £100 for 2 years	85,000
70 Officers at £100 for one year	7,000
55 Officers at £100 for part 2 years	5,000
	£102,000 which is required to be provided for in the Appropriation Accounts for 1950-51 and 1955-56 in the Amounts of £17,000 and £85,000

* The cost of these officers from 1944-45 to 1950-51, inclusive, has been calculated under [illegible]

TABLE XVI

BUILDINGS PROGRAMME

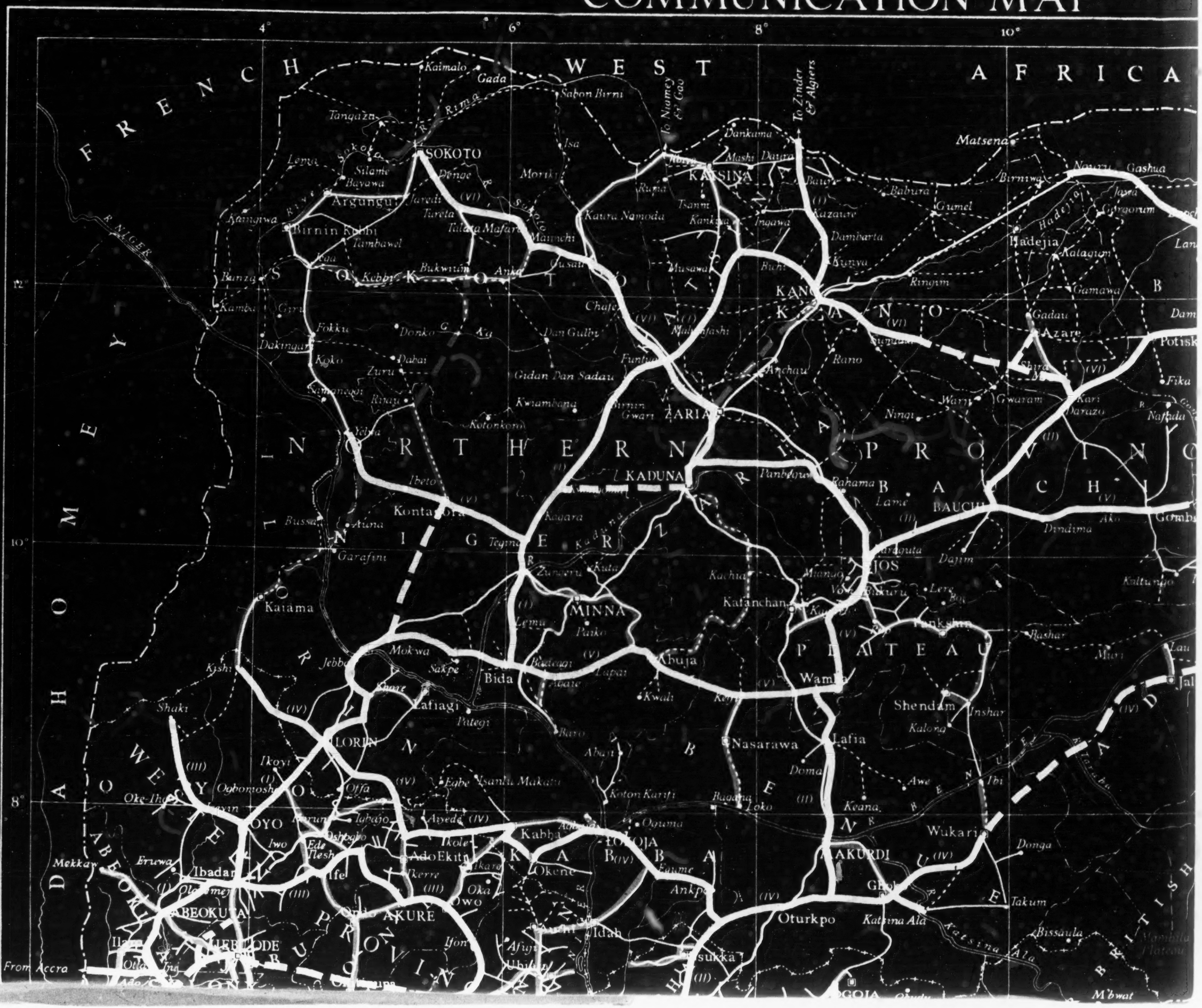
SUMMARY OF ESTIMATED EXPENDITURE

This table shows total work expected to be required but it will be in excess of the work-capacity of the Building Development Scheme in some years and will therefore "overflow" into Public Works Extraordinary. The source of funds varies in each case; some provision will be made under individual Colonial Development and Welfare Schemes, some from the Colonial Development and Welfare Buildings Scheme, the remainder from Loan Funds.

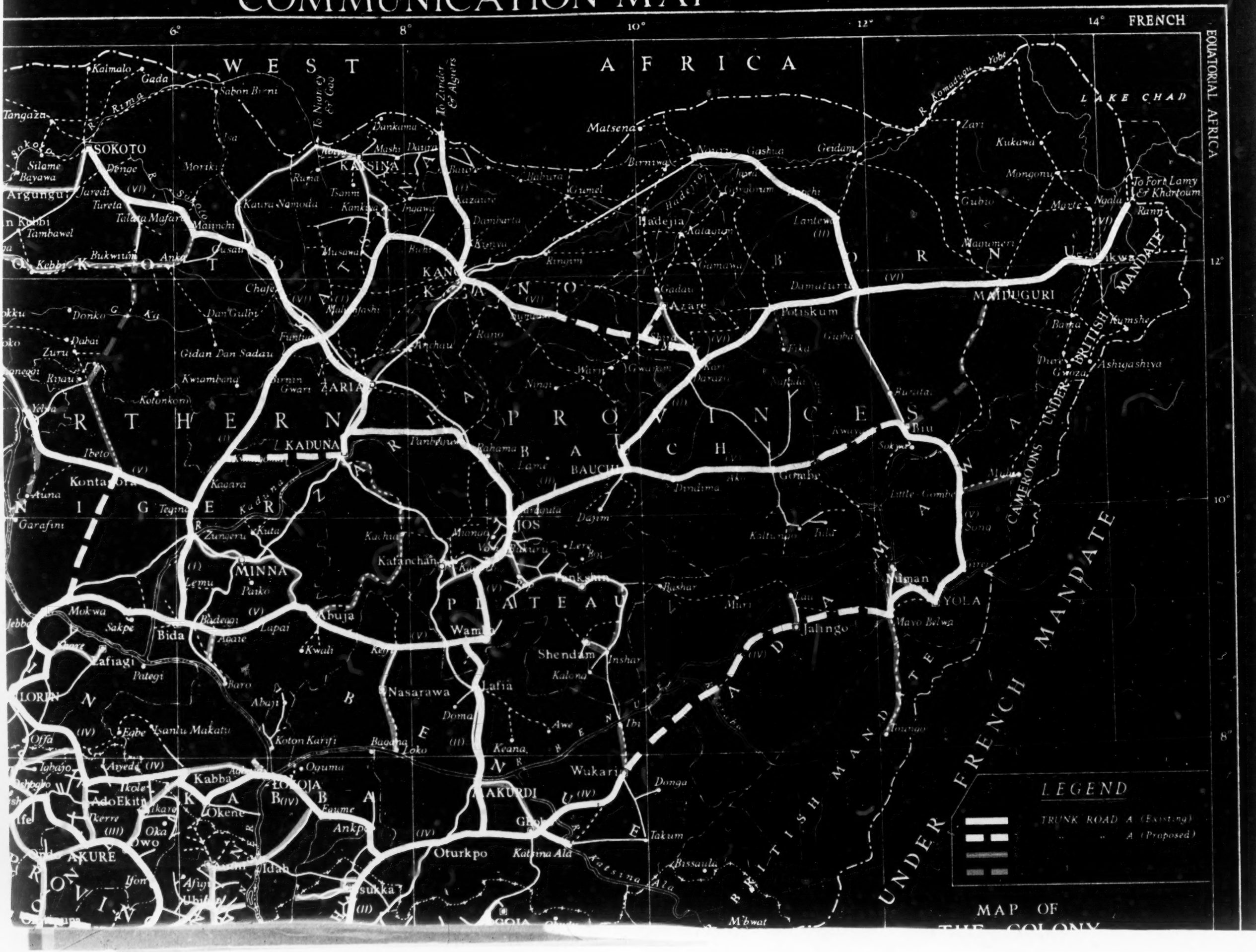
	1946-47	1947-48	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	Estimated Total Cost
A. STAFF AND PLANT											
(i) Architects*											143,500
(ii) Inspectorate*											577,500
(iii) Central Plan Area											100,000
Total											821,000
B. COST OF WORK											
(i) (a) Medical Plan											3,260,550
(b) Medical Housing											550,000
(ii) Education (General) Plan											1,938,600
(iii) Technical Education Plan											421,000
(iv) Agriculture Plan											472,900
(v) Forestry Plan											92,500
(vi) Veterinary Plan											19,000
(vii) Zaria Secondary School											35,000
(viii) Employment											1,423,750
Total	130,500						1,182,000	1,185,000	1,214,000		8,213,300
Total Expenditure											9,034,300

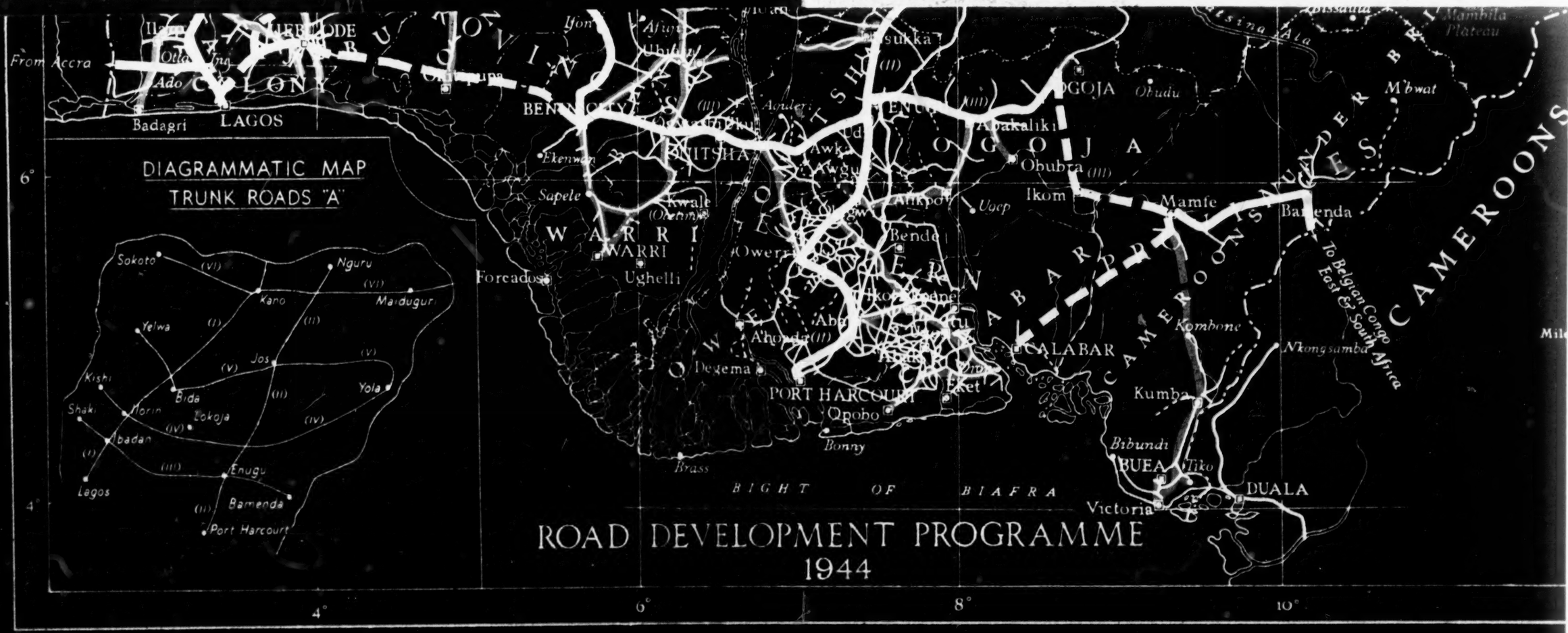
* Consolidated costs including allowances, passages, travelling by air [illegible]

COMMUNICATION MAP



COMMUNICATION MAP


6°
8°
10°
12°
14°
FRENCH EQUATORIAL AFRICA
WEST AFRICA
LAKE CHAD
SOKOTO
KATSINA
ZARIA
KADUNA
MAIDUGURI
BAUCHI
JOS
MINNA
YOLA
PLATEAU
ABUJA
BIDA
LAFIA
NASARAWA
OKENE
AKURE
OTUKPO
MAKURDI
Kalmalo
Gada
Sabon Birni
Tangaza
Silame
Bayawa
Argungu
Jaredi
Tureta
Talata Mafara
Maiyanchi
Kaura Namoda
Tsamm
Kankiya
Ingawa
Dankama
Mashi
Daura
Matsena
Birnin Kebbi
Tambawel
Bukwium
Anka
Donko
Dabai
Zuru
Rijau
Kotonkoro
Gidan Dan Sadau
Kwambana
Birnin Gwari
Kagara
Zungeru
Kuta
Kafanchan
Kachia
Ahoada
Pankshin
Lere
Bauchi
Gombe
Dindima
Biu
Sokoto
Little Gombe
Mubi
Sona
Mokwa
Sakpe
Badeggi
Lapai
Agaie
Kwali
Lafiagi
Pategi
Baro
Abaji
Nasarawa
Lafia
Doma
Awe
Shendam
Kalong
Inshar
Jalingo
Mayo Belwa
Toungo
Wukari
Donga
Takum
Bissaula
Katsina Ala
Oturkpo
Ogbaja
Ankpa
Kabba
Okene
Ado Ekiti
Ikare
Owo
Ilorin
Offa
Egbe
Isanlu Makatu
Ayede
Ibadan
Ife
Ijebu Ode
Abeokuta
Ota
Lagos
Ikeja
Badagry
Porto Novo
Cotonou
Nikki
Parakou
Save
Kandi
Ouidah
Abomey
Lokoja
Makurdi
Gboko
Otukpo
Katsina Ala
Bissaula
Takum
Wukari
Donga
Keana
Awe
Loko
Baggana
Oguma
Ibi
Jebba
Yelwa
Kontagora
Garafini
Atuna
Ibeto
Mokwa
Bida


DIAGRAMMATIC MAP
TRUNK ROADS "A"
Sokoto
Nguru
Kano
Maiduguri
Yelwa
Jos
Kishi
Bida
Yola
Shaki
Ilorin
Lokoja
Abadan
Lagos
Enugu
Bamenda
Port Harcourt
From Accra
Badagri
LAGOS
Ado
Ekenwan
Sapele
Forcados
Ughelli
Awka
Onitsha
Abakaliki
Obubra
Ikom
Mamfe
Bamenda
Benin
Degema
PORT HARCOURT
Oporo
Bonny
Brass
Calabar
Kombone
Kumba
Bibundi
BUEA
Tiko
DUALA
Victoria
Nkongsamba
To Belgian Congo East & South Africa
BIGHT OF BIAFRA
CAMEROONS UNDER B.
CAMEROONS
ROAD DEVELOPMENT PROGRAMME
1944
4°
6°
8°
10°

MAP OF THE COLONY AND PROTECTORATE OF NIGERIA 1940

Scale :— 1 3,000,000 or 1 Inch to 47·35 Miles

Miles 20 0 20 40 60 80 100 120 140 Miles

REFERENCE

- Boundaries International
- " Provincial
- " Mandated Territories
- Boundary between the Northern and Southern Provinces
- Headquarters Provincial
- " Divisional
- Towns & Villages
- Railways
- All Season Roads
- Dry " "

ROAD DEVELOPMENT PROGRAMME 1944

BENIN PROVINCE
WARRI PROVINCE
OWERRI PROVINCE
CALABAR PROVINCE
CAMEROONS UNDER BRITISH MANDATE
CAMEROONS UNDER FRENCH MANDATE
IBO
IBIBIO
IJAW
Sapele
Forcados
Ughelli
Degema
Owerri
Aba
Ahoada
Bende
Ikot Ekpene
Abakaliki
Ogoja
Obubra
Ikom
Mamfe
Bamenda
Uyo
Eket
PORT HARCOURT
Opobo
Bonny
Brass
Kumba
Victoria
BUEA
Tiko
DUALA
Kombone
Nkongsamba
To Belgian Congo
East & South Africa
BIGHT OF BIAFRA
6°
8°
10°
12°
14°
4°
6°

Drawn & Reproduced by Land & Survey Dept. Nigeria, April, 1940

FRENCH WEST AFRICA

DAHOMEY

SOKOTO
Argungu
Birnin Kebbi
Zuru
Rijau
Yelwa
Kontagora
Kaiama
Jebba
ILORIN
Offa
Oshogbo
OYO
Ogbomosho
Iseyin
Ede
Iwo
Ife
Ilesha
Meko
To Pabeji
Ibadan
Ilaro
ABEOKUTA
Ijebu Igbo
IJEBU-ODE
Shagamu
Ejinrin
Ondo
Okitipupa
AKURE
Ade Ekiti
Ikare
Owo
Idanre
Ifon
Afuzi
Sabon Gida
Auchi
Ubiaja
Zungeru
MINNA
Bida
Lafiagi
Abuja
Katsina
Daura
Kaura Namoda
Gusau
Kazaure
Damberta
Funtua
Mallamfashi
Maidobi
KANO
Wudil
Kirjaaa
Jamaari
AZARE
Gunel
Nguru
Gergoram
Hadejia
Mallam Maduri
Ringim
ZARIA
Duchun Wai
KADUNA
Kahama
BAUCHI
Gombe
JOS
Bukuru
Barakin Ladi
Pankshin
Kafanchan
Wamba
Shendam
Keffi
Gudi
Lafia
Nassarawa
Loko
Koton Karifi
LOKOJA
Dekina
Idah
Agenebode
Ankpa
Auchi
Nsukka
Iuke
Igumale
Otukpo
Utonkon
MAKURDI
Gboko
Katsina Ala
Takum
Wukari
Ibi
Donga
Jalingo
Lau
Numan
Potiskum
Damaturu
Bansara
OGOJA
Obanliku
Ogoja
Hendu
Okene
Kabba
Isanlu
Egbe
Lafiagi
Bida
Jebba
Kontagora
Zungeru
Kaiama
Yelwa
Rijau
Zuru
Argungu
Birnin Kebbi
Gusau
Kaura Namoda
Katsina
Daura
Kazaure
Damberta
Gunel
Nguru
Gergoram
Hadejia
Mallam Maduri
Ringim
Wudil
Kirjaaa
Jamaari
AZARE
Potiskum
Damaturu
Kahama
BAUCHI
Gombe
JOS
Bukuru
Barakin Ladi
Pankshin
Kafanchan
Duchun Wai
KADUNA
ZARIA
Funtua
Mallamfashi
Maidobi
KANO
Ringim
Mallam Maduri
Hadejia
Gergoram
Nguru
Gusau
Kaura Namoda
Katsina
Daura
Kazaure
Damberta
Gunel

H WEST AFRICA

SOKOTO
Argungu
Birnin Kebbi
Gusau
Kaura Namoda
Katsina
Daura
Kazaure
Dambertu
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Gergoram
Hadejia
Mallam Maduri
Ringim
KANO
Mallamfashi
Maidobi
Wudil
Kirjaka
Jamaari
AZARE
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Zuru
Rijau
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Duchin Wai
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Kaiama
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MINNA
Kafanchan
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JOS
Bukuru
Barakin Ladi
Pankshin
Gombe
Bauchi
Potiskum
Damaturu
MAIDUGURI
Dikwa
Bama
Biu
Nguru
Gashua
Yola
Jalingo
Wamba
Sheridam
Jebba
Bida
Lafiagi
O.Abuja
Keffi
Gindi
Lafia
Nassarawa
Loko
Koton Karifi
Baro
ILORIN
Isanlu
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Kolsina Ala
Auchi
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Okitipupa
Idanre
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Afuzi
Sabon Gida
Ubiaja
Ogruga
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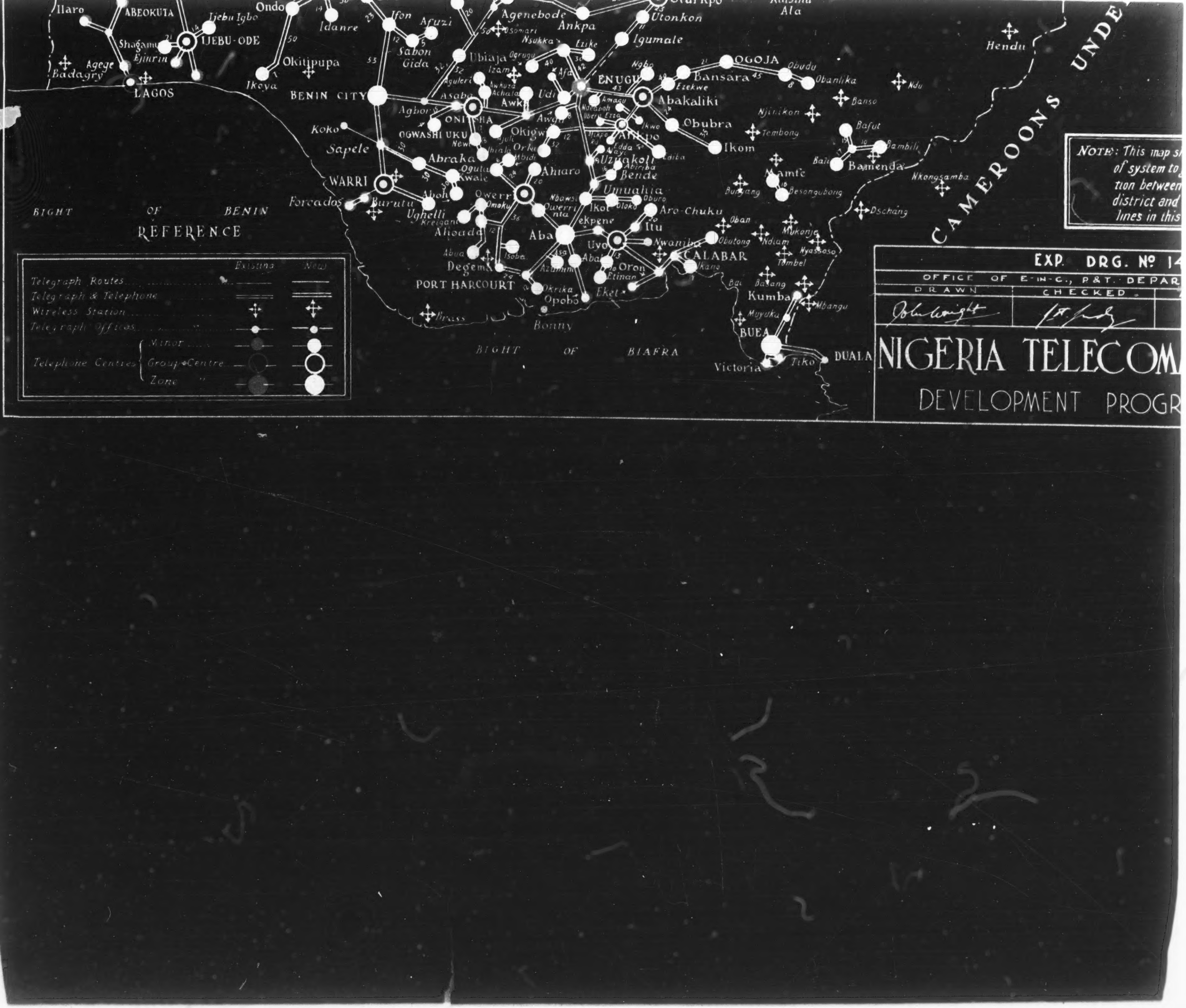
Ngbo
OGOJA
Obudu
Obanliku
Bansara
Hendu
UNDER FRENCH MANDATE


Ilaro
ABEOKUTA
Ijebu Igbo
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Sabon Gida
Agege
Badagry
Okitipupa
Ikoya
LAGOS
BENIN CITY
Agenebode
Ankpa
Osomari
Nsukka
Etike
Utonkon
Igumale
Ubiaja
Ogrugu
Izam
Afa
ENUGU
Ngbo
OGOJA
Obudu
Bansara
Ezekwe
Obanlika
Abakaliki
Ndu
Hendu
Banso
Njinikon
Tembong
Obubra
Ikom
Bafut
Bambili
Bamenda
Nkongsamba
Mamfe
Besongabong
Bunyang
Dschang
Asaba
Awka
Udi
Agbor
ONITSHA
OGWASHI UKU
Okigwi
Amaku
Ndeaboh
Uberi
Ezza
Ikwo
Afikpo
Koko
Sapele
Abraka
Oguta
Kwale
Orlu
Abidi
Uzuakoli
Edda
Ediba
Abiriba
Bende
Ahiaro
WARRI
Forcados
Burutu
Aboh
Ughelli
Kreigani
Owerri
Omoku
Umuahia
Nbawsi
Owerri nta
Oboro
Ikot Ekpene
Aro-Chuku
Oban
Ahoada
Abua
Isoba
Aba
Uyo
Itu
Obutong
Mukonje
Ndiam
Nyassoso
Tombel
Degema
Azumini
Abak
Oron
Etinan
Nwaniba
CALABAR
Ikang
Okrika
PORT HARCOURT
Opobo
Eket
Brass
Bonny
Bang
Kumba
Mbangu
Muyuka
BUEA
Victoria
Tiko
DUALA
BIGHT OF BENIN
BIGHT OF BIAFRA
CAMEROONS UNDE
REFERENCE
Existing
New
Telegraph Routes
Telegraph & Telephone
Wireless Station
Telegraph Offices
Telephone Centres
Minor
Group Centre
Zone
NOTE: This map s
of system to
tion between
district and
lines in this
EXP. DRG. Nº 14
OFFICE OF E-IN-C., P&T. DEPAR
DRAWN
CHECKED
NIGERIA TELECOM
DEVELOPMENT PROGR

NOTE: This map shews proposed development of system to give telephonic communication between administrative provincial, district and commercial centres. Minor lines in this development not shewn.

EXP. DRG. Nº 14

OFFICE OF E-IN-C., P&T. DEPARTMENT, NIGERIA

DRAWN	CHECKED	APPROVED	DATE
			21/9/44

NIGERIA TELECOMMUNICATIONS

DEVELOPMENT PROGRAMME 1944